BENTON HARBOR POWER PLANT LIMNOLOGICAL STUDIES

PART XXIV. ENTRAINMENT OF PHYTOPLANKTON AT THE DONALD C. COOK NUCLEAR PLANT - 1975

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Under Contract with

American Electric Power Service Corporation
Indiana & Michigan Electric Company

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Special Report No. 44
Great Lakes Research Division
The University of Michigan
Ann Arbor, Michigan

November 1977

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ABSTRACT

Phytoplankton entrained by the Donald C. Cook Nuclear Power Plant in 1975 were sampled from the intake and discharge forebays of the plant for enumeration and assessment of viability. Viabilities were examined using chlorophyll *a*, chlorophyll *b*, chlorophyll *c*, and phaeophytin *a*. Samples were collected 3 times during a 24 hour sampling period once per month. In addition to this regular sampling, a set of samples was collected to determine the representativeness of our sampling site in the intake forebay of the plant. The sampling site chosen has been used consistently throughout the study.

Seasonal succession was as expected for phytoplankton in a nearshore environment of Lake Michigan during a stage of its increasing eutrophication. Diatoms dominated during the months of February, March, April, May, June, November, and December. Green algae dominated in July and August, and blue-green algae were dominant in September and October. Diversities fall below 4.0 and redundancies are above 0.3 during the months of May, August, September, October, and December. Diatom blooms in May and December and blooms of blue-green algae in August, September, and October are the cause of the decrease in diversity and increase in redundancy.

During 1975, 4.24×10^{18} phytoplankton cells were entrained by the plant. This is equivalent to 2.41×10^{9} gm of phytoplankton. These represent maximum figures. The calculation is based on the assumption that the plant was operating full time during the year.

Viability studies of the phytoplankton showed an only 6 percent occurrence of change in viability during entrainment. Inhibition occurred 4 percent of the time and enhancement 2 percent of the time.

The only occurrence of a measurable plant impact which could be important was a minor bloom of *Tabellaria fenestrata v. intermedia* during February and

March of 1975. During these months, the plant was discharging warm water through its center intake pipe to keep the three intake pipes ice free. This allows a certain amount of recirculation which is evidenced by above normal intake temperature. Apparently the increased temperature was enough to trigger the small bloom. The bloom ceased in April and was coincident with the cessation of deicing. The normal expected bloom of this phytoplankton occurs in May.

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ACKNOWLEDGMENTS

Thanks are extended to Max L. Anderson, Nancy V. Southwick, Sally Kleinschmidt, Susan Wiley, and William L. Yocum for their help with the collection and laboratory analysis of the samples. Thanks to Edward Johnston for his advice about statistical analysis of the data. Finally, thanks to John C. Ayers, Chang Kwei Lin, Edward Johnston, and Eugene F. Stoermer for critical review of this manuscript.

The Donald C. Cook Nuclear Plant is a 2200 megawatt steam electric generating station situated on the southeastern shore of Lake Michigan about 18 km south of St. Joseph, Michigan. At full operation, the plant will use roughly 6300 m^3/min of lake water in once-through cooling of its condensers. Waste heat is returned to the lake in cooling water heated to a maximum of 12-13C° above intake temperature for unit #1 and 9-10C° above lake temperature for unit #2 as stated in the Technical Specifications for the plant. The plant uses chlorination twice daily for chemical defouling of heat exchangers and turbine condensers. Currently only unit #1 of the plant is operating. It uses roughly 2700 m^3/min of lake water for once-through cooling.

The Environmental Technical Specifications of the plant require an assessment of phytoplankton abundance, viability, and species composition to be made on a monthly basis on samples collected in the early morning, at mid-day, and in late evening.

INTRODUCTION

The phytoplankton are algae which comprise the base of aquatic food webs. Power plants draw large quantities of water from lakes, rivers, estuaries, and the oceans for cooling their condensers and return it to these sources at an elevated temperature. Because of this, there has been concern for the fate of the phytoplankton in these ecosystems when parts of their community pass through power plants. Investigations of this problem have focused on two main areas: 1) the effect of the thermal discharge on the receiving body of water and 2) the effect of thermal shock on the organisms which actually pass through the condensers. This condenser passage is commonly referred to as "entrainment."

It is well-established that temperature plays an important role in determining phytoplankton species diversity and abundance (Patrick 1969).

A healthy stream containing a mixed algal population was sampled by Cairns (1956); the phytoplankton culture obtained was subjected to gradually increased and then gradually decreased temperature. At 20°C, diatoms were predominant. As the temperature increased, green algae became dominant at 30°C to 35°C and blue-green algae became dominant at 35°C to 40°C. Diatom species once again were dominant three weeks after the temperature was reduced to 22°C, indicating that not all individuals of a species were killed at unfavorable temperatures, rather, that they could not successfully compete with better adapted species at the higher temperatures.

Patrick's (1969) review of temperature effects on freshwater algae concludes that a species will tend to experience increased growth and photosynthesis if it is provided with sufficient light and optimal temperature range. As the temperature is artificially increased to the tolerance limits for a species, cell division, photosynthesis, and formation of reproductive cells may be repressed. Diatoms have relatively low temperature tolerances (30°C or less). Green algae are tolerant of higher temperatures, and blue-green algae are tolerant of even higher temperatures. Patrick (1971) suggests that species go into resting phases under unfavorable temperature conditions.

Estimation of phytoplankton population changes that result from temperature increases due to thermal discharges or condenser passage are complicated by many factors. In the natural realm, phytoplankton undergo seasonal species succession, diurnal fluctuation of photosynthesis, local nutrient enrichment or limitation, and patchiness of population distribution in the water mass. Man-induced perturbations include mechanical effects due to condenser passage and pumping, and chemical effects in the form of chlorine (added at many power plants to prevent condenser fouling). Findings from entrainment studies must be so evaluated that the longer-term effects on the population in the

receiving body of water, accrued as the result of momentary stresses on the population passed through condensers, are considered to the extent possible.

One of the standard techniques for estimation of size and instantaneous condition of the phytoplankton standing crop involves pigment analysis. Though the amount of pigment associated with a given biomass is not constant, varying for the different types of phytoplankters and their states of nutrition, spectral analysis of phytoplankton pigment extracts provides a rapid indication of viability. Viability is here defined as the ability of the phytoplankton chlorophyll contents to resume a normal photosynthetic activity after perturbation.

Chlorophyll *a* is the principal pigment of all photosynthesizing phytoplankton. It is accompanied to a much less extent by chlorophyll *b* in euglenoids and other green algae and by chlorophyll *c* in diatoms, dinoflagellates, and all brown algae (Vernon and Seely 1966). Several other pigments such as xanthophylls and carotinoids occur in phytoplankton and are not normally investigated.

Richards and Thompson (1952) reported a semimicro technique for the simultaneous estimation of chlorophylls *a*, *b*, and *c* which eliminated the need for prior chromatographic separations. Organisms were concentrated with a plankton centrifuge, pigments were extracted into 90% acetone, and absorbance was measured at 665, 645, and 630 nm, corresponding to absorbtion maxima for chlorophylls *a*, *b*, and *c*, respectively. Concentrations of the three chlorophylls were calculated using simultaneous equations. Creitz and Richards (1955) altered the method of concentrating the organisms to filtration and collection on membrane filters. Further refinements of the trichromatic method include use of different specific absorption coefficients (Parsons and Strickland 1963), measurement of the chlorophyll *a* maximum at 663 nm (SCOR/UNESCO), and the introduction of an additional absorption measurement at 750 nm

to account for turbidity of the extract where none of the pigments absorb light (Strickland and Parsons 1960). Because of the difficulties involved with determining small quantities of chlorophyll *c*, Parsons (1963) reported a method for selectively partitioning it into hexane from the 90% acetone extract and measuring absorbance at 450 nm. This method did not require a turbidity correction and was highly specific for chlorophyll *c*. The present state-of-the-art methods of pigment analyses including the trichromatic method are given by Strickland and Parsons (1972).

Chlorophylls *a*, *b*, and *c* lose the central Mg atom of their porphyrin rings upon acidification. These degradation products are known as phaeophytin *a*, *b*, and *c* with respect to their related chlorophylls and occur in photosynthetically inactive phytoplankters. As mentioned earlier, chlorophyll *a* occurs to a much greater extent in the phytoplankton than any other pigments, so most of the research has focused on it. However, in dealing with coastal, estuarine, or fresh water, or when sampling from deep in the water column, phaeophytin *a* must also be considered because it, too, has an absorption maximum at 665 nm. Lorenzen (1967) reported a method in which the absorbances at 665 and 750 nm were measured before and after acidification to distinguish between chlorophyll *a* and phaeophytin *a* contribution to the 665 nm maximum. A similar method was independently reported by Moss (1967).

Fluorescence was used by Yentsch and Menzel (1963) for rapid estimation of pigments. Fluorescence of 85% acetone extracts of phytoplankton was measured before and after acidification. Results were expressed as concentration of chlrophylll *a* and phaeophytin *a* though, in fact, all species fluorescing within the chosen spectral window were contributing. A modified procedure by Strickland and Parsons (1972) determines only the "*a*" pigment components. Fluorescence measurements are especially applicable to open sea measurements because of the greatly increased sensitivity of the method over absorption methods.

Another indicator of phytoplankton abundance and viability is primary productivity; that is, the rate of photosynthesis. The two most commonly used methods are 1) monitoring the rate of change in dissolved oxygen concentration of water samples in light and dark bottles under identical conditions over a given incubation period and 2) measurement of ^{14}C fixation (generally derived from $NaH^{14}CO_3$) as a function of time. Gurtz and Weiss (1972) give a detailed account of the advantages and disadvantages of the radio-carbon uptake method in appendix B of their report.

Previous Studies Elsewhere

The methods most commonly cited in the literature for evaluating the effects of power plants on the body of water which receives condenser cooling water are microscopic counting and identification of species, estimation of chlorophyll *a* and phaeophytin *a*, and measurement of primary productivity. This discussion will review some of the more recent reports.

Gurtz and Weiss (1972) in their studies at the Allen steam-electric generating plant, Lake Wylie, North Carolina sought to learn what effect short-term thermal stress had on a discrete phytoplankton population. Three condensers were regulated so that the water underwent 5.6, 11.1 and 16.7C° rises in temperature during condenser passage. Samples were simultaneously collected prior to and just after passing through each condenser and allowed to cool at a controlled rate for up to 26 hours over which time aliquots were removed for primary productivity measurements. This experiment was carried out on six different dates between July 1971 and June 1972 to include seasonal effects. These same water samples were spiked with nutrients following the controlled cooling period and were assayed for chlorophyll *a* and total carbon as indicators of algal recovery and growth following thermal shock. It was found that phytoplankton primary productivity in condenser cooling water

decreased, with this depression related to initial temperature and the degree of temperature rise. Temperature increases of 5.6 and 11.1C° resulted in relatively constant inhibitions except above a 28.3°C intake temperature where greater inhibitions occurred. Inhibitions for the 11.1C° rise, however, showed seasonal effects with greater inhibitions of productivity being recorded for increased intake water temperature. Phytoplankton growth studies revealed that the samples which had received the greatest thermal stresses produced the largest final yields. This may have been due to altered species composition in the waters following condenser passage. The authors concluded that summertime temperature rise should be limited to 11.1C° for this plant, but greater increases could probably be tolerated in the winter.

Species composition changes in attached algae have been shown to occur due to thermal effluent from Sundance Power Station, Lake Wabamun, Alberta, Canada (Hickman and Klarer 1975). In studying the epiphyton on *Scirpus validus* between May and October, 1972, it was discovered that the algae went from a diatom-dominated community in unheated waters near the intake to one in which members of Chlorophyta (green algae) dominated at the heated site. Segments of *Scirpus validus* were collected at the heated and non-heated water sites and the attached algae were removed from the stems. Samples for primary productivity measurements were incubated three hours at the heated and non-heated sites with a ^{14}C source. Mean primary productivities of both groups of samples increased when incubated at the heated site. Likewise, the mean standing crop as estimated by chlorophyll *a* concentration was larger in samples collected at the heated site than at the non-heated site. This was primarily due to the large spring and summer maxima of two green algae in the heated waters. The mean photosynthetic index, (mg C) (h^{-1}) (mg chlorophyll a^{-1}), was also calculated for the same four cases. The index for non-heated samples incubated at the non-heated site was somewhat greater than that of

heated samples incubated at the heated site. The index for non-heated samples incubated at the heated site was approximately twice that of non-heated samples at the non-heated site. The index of heated samples incubated at the non-heated site was half that of heated samples incubated at the heated site. The maximum temperature reached by the heated waters in this study was 28°C. The authors concluded that the water temperature in non-heated areas was probably not optimal for photosynthesis by the algal population and that the photosynthetic efficiency of the algae in the heated area was decreased by the continuous flow of heated water.

Earlier studies in 1971 and 1972 at Wabamun Power Station, another plant on Lake Wabamun, revealed increased standing crops of epipelon (algae free-living on sediments) due to thermal effluent (Hickman 1974). This was especially true in the discharge canal itself. A decrease in the number of diatom species was also discovered in the discharge canal. The thermal effluent had no effect on epipsammon (algae living among or attached to sand grains). The maximum temperature recorded in the discharge canal during this study was 31°C, 7C° greater than in the unaffected portion of the lake (Gallup and Hickman 1975).

In May 1965 to April 1966, Poltoracka (1968) studied the species composition of net phytoplankton in three interconnected lakes near Konin, Poland. A thermal power plant drew its cooling water from Lake Patnow and discharged it into Lake Lichen whose annual temperature ranged from 7.4 to 27.5°C. From Lake Lichen the water passed into Lake Mikorzyn which exhibited slightly elevated temperatures and then into Lake Slesin whose yearly temperature, ranging from 0.8 to 20.7°C, did not reflect an increase due to the discharged heat. Lake Lichen differed from the other two lakes in that it contained a markedly higher number of species, especially from the class Chlorophyceae

(green algae). It did not exhibit pronounced seasonal fluctuations in total number of algal species as did Lakes Mikorzyn and Slesin. Members of Chlorophyceae increased in number in the three lakes with respect to increased temperature while numbers of diatoms decreased.

Productivity studies were undertaken at an electric power generating station on the Patuxent River Estuary, Chalk Point, Maryland by Morgan and Stross (1969) in August 1966 and continued through August 1967. The intake canal is located in a small bay at Chalk Point; the intake samples were collected from the mouth of the canal. The discharge canal joins the river approximately two miles upstream; the discharge samples were collected one-fourth mile from the mouth of the discharge canal. The time required for the water from the intake sampling point to reach the discharge sampling point was approximately three hours, dependent, of course, on the intake rate. Three single productivity measurements were made of intake and discharge samples in August and September of 1966. For an approximately 8C° rise in temperature, photosynthesis was stimulated when intake temperature was 16°C or cooler. When intake temperature was 23°C or warmer, the photosynthetic rate in the discharge was lowered to 0.06 to 0.31 of the intake rate. Further experiments were carried out in October of 1966, and March and August of 1967 which involved incubating repetitive intake samples taken at intervals of a few hours at the discharge temperature. A similar effect was encountered in that at temperature differentials of 16C° to 24C° in October and 7.6C° to 11.8C° in March the mean rates of carbon uptake increased from 16.0 to 41.6 mg $C/m^3/hr$. Non-averaged repetitive samples showed considerable variation in March and October. Productivities of intake and effluent samples incubated at the effluent temperature also were compared for these months. A significantly lower rate of photosynthesis occurred for the effluent sample of the March experiment. In August, both the intake and effluent samples showed

large decreases in productivities as compared with intake samples incubated at the intake temperature. The October experiment clearly showed the effects of chlorination when productivities were reduced to nearly zero at the times of chlorine addition. Chlorophyll a concentrations were greatly reduced, suggesting cell destruction. Recovery of photosynthetic rate did not occur when effluent samples were returned to intake temperatures. The authors concluded that at temperatures of 23°C or greater and an 8°C rise in temperature carbon uptake rates were inhibited. At 16°C or lower, an 8C° rise in temperature stimulated carbon intake. When heat inhibited carbon uptake, condenser passage increased this inhibition. When heat stimulated the carbon uptake, chlorination and/or condenser passage may have negated this stimulation.

Fox and Moyer (1973) at Crystal River plant site, Florida, examined both the effects of thermal shock resulting from condenser passage on a phytoplankton population and changes experienced by the population as it gradually cooled in the discharge canal. The plant is located on the Gulf of Mexico where two canals were dug for the cooling system. The south canal serves as the intake and the north canal as the discharge. Of the sampling points chosen in the study, station 1 was located at the center of the intake canal. Station 2 was located in the center of the discharge canal at a point thought representative of thoroughly mixed water coming from the two fossil-fueled units. Stations 3, 4, and 5 were located at one-half mile intervals further down the discharge canal, and station 6 was located in the Gulf, one-half mile northwest of the discharge canal. Station 6 represented shallow, estuarine water that received water from the discharge canal only during ebb tide. Experiments were carried out on April 28 and June 4, 1971. Chlorination was not occurring at the plant during the period of this study. Because Fox and Moyer desired to follow the changes occurring in the particular water

mass sampled at the intake, they added uranine dye at station 1 and measured the time required for it to reach station 2. It took eight minutes. Two drogues were placed in the water as the dye reached station 2 and samples were collected at stations 3, 4 and 5 as the drogues passed them. Water flow rates down the canal varied with the tides. Water from station 5 did not necessarily pass station 6. Parameters examined in this study were temperature, dissolved oxygen, total bacterial population, chlorophyll *a*, primary productivity, total and suspended solids, and adenosine triphosphate (ATP). Both power generating units were designed to have a maximum temperature rise across the condensers of 6.1C° and the temperature differentials recorded in three experiments on April 28 between stations 1 and 2 were 6.7, 5.0, and 6.0C° respectively. Dissolved oxygen levels were inversely proportional to temperature though levels were never severely depressed between any of the stations. Weight of total solids did not correlate with any parameters. Samples for primary productivity measurements were incubated at the stations where they were collected. Primary productivities varied with respect to intake water temperature. Productivities decreased when intake temperature was 27°C or greater and the temperature differential between stations 1 and 2 was 5C°. Productivities continued to decrease downstream in the canal until the water temperature was lowered to 32°C or less. Chlorophyll *a* results seemed to indicate that the amount present was dependent on the time of day. Values decreased from stations 1 to 2 in morning experiments and increased in the afternoon. Bacterial populations increased 45.5 to 550 percent between stations 1 and 2 following 48 hr incubation or with a greater increase when the temperature change was lowest, 5 to 5.5C°. ATP measurements were included as an indicator of viability and biomass of the phytoplankton population because it degrades rapidly following the death of an organism. ATP values increased from station 1 to station 2 in all experiments except one where a slight drop

was encountered. In this case, the ATP level continued to drop for all stations down the canal. The highest temperature recorded in the experiments, 34.5°C, occurred at station 5 during that run. The results of this study gave evidence that phytoplankton were hindered in their ability to photosynthesize but that they were not necessarily being killed. Generally the organisms made some recovery while traversing the discharge canal as parameters measured at the end of the canal were not significantly different from values obtained at the intake.

Briand (1975) studied the effects of condenser passage at the Alamitos and Haynes Generating Stations on the San Gabriel River near Long Beach, California, which generated 3575 mW, the most powerful generating complex in America at the time of this study. One sample was collected near the intake pipe at both plants and one in the middle of the river 300 m downstream from the discharge pipes, a place considered representative of thoroughly mixed discharge waters. Water was sampled when the tide was receding so that immediate effects of condenser passage could be examined. It was calculated that four to nine seconds was required for the water to traverse the condensers and that the water spent approximately ten minutes going from either intake sampling site through the plant to the discharge station. Chlorine was added sequentially for all 21 units so that its concentration in the cooling water ranged from 0.2 to 1.0 ppm and was considered a constant factor. Water temperatures ranged from 14 to 23°C at the intake stations (less than 0.2C° variation between the two intakes at any time). The ususal discharge temperature was between 24 and 26°C, but reached 31°C in August. The average temperature increase across the condensers was 9.3C° over the year, with a minimum rise of 6C° being in June and the maximum rise of 11C° in December and January. Results of phytoplankton counts revealed a reduced species diversity following condenser passage with diatoms being reduced in greater proportions

than dinoflagellates. Primary productivity, following condenser passage in February and June increased by 230% while it was reduced by 40% in September. In February and June, growth rates of survivors in the discharge as estimated by the production:biomass ratio increased three-fold, but it remained the same as intake populations in September. Thus it appears that the surviving stock would be capable of fast recovery for some parts of the year. It was suggested that the reason for a poor growth rate in September could be due to an overly elevated discharge temperature, 31°C. The author reasoned that despite the fact that phytoplankton seem to make rapid recovery in replacement of the standing stock, the power plant could be looked upon as a serious disturbance to the ecosystem because of the selective reduction in numbers of certain species, while the relative abundance of the others, especially *Asterionella japonica* and *Gonyaulax polyedra* was enhanced. Briand (1975) found a relationship between intake temperature, amount of heating, and phytoplankton mortality. When intake water was cooler than 15°C, the phytoplankton stocks seemed unaffected by temperature increases up to 11C°; however, when intake water was 16°C, an effect was seen upon an 8 to 9C° rise. On this basis, Briand (1975) advocated the use of cold deep-sea water for cooling coastal power stations.

Brook and Baker (1972) while attempting to study productivity in the vicinity of the King Plant, St. Croix River, Minnesota could find no correlation between photosynthesis and respiration rates of phytoplankton and temperatures of the river, condenser cooling water, or discharge canal. When it was discovered that chlorine was added in one hour long, four times daily doses to a subsidiary cooling system, they then were able to correlate the severe depression of photosynthesis and respiration with the chlorine additions. Their incubation studies revealed a 5 to 10% depression of photosynthesis along with up to a 50% stimulation of respiration when discharge samples and the control sample taken from a site upstream of the plant were

collected during a non-chlorinating period and compared. Photosynthesis was depressed 50 to 90% and respiration was often reduced to an unmeasurable rate when the same experiment was carried out during a period of chlorination. A water sample collected within the plant during chlorination was 2700 ± 100 ppb chlorine. This sample was serially diluted and a plot of concentration versus percent depression with respect to the control indicated that both respiration and photosynthesis were reduced to 50% of the control at a concentration of 320 ppb chlorine, photosynthesis was reduced to zero at 1600 ppb, and respiration was reduced to zero at 2700 ppb.

Brooks (1976) obtained Lake Michigan water from a Milwaukee filtration plant prior to any treatment and, following 30 minutes exposure to chlorine concentrations ranging from 0 to 1400 ppb as total residual chlorine, incubated the sample for 24 hours at a constant temperature approximating that of the lake. The phaeophytin *a*/chlorophyll *a* ratio, as obtained by flourescence, and net primary productivity were measured. Initial reduction in photosynthesis of 5 to 18% occurred at 3 ppb. The effect lasted six hours with nearly full recovery after 12 to 24 hours. At 616 ppb, net productivity returned to only 52% of the control value after 24 hours. At 1218 ppb, there was no recovery of production after 24 hours. Results of pigment analyses showed similar trends and also indicated that no significant recovery occurred after 24 hours at any concentration where chlorophyll was destroyed through chlorine addition. It was noted that the concentrations of chlorine needed for 50% inhibition of primary productivity varied with season, the amount being two to three times lower in summer months than in the fall.

Mechanical effects due to turbulence and pumping were studied by Gurtz and Weiss (1972) who pumped water through a cooled, unused condenser at the Allen Steam Plant in June 1972. The water was pumped at three different rates. They collected samples prior to and after condenser passage and measured

productivities after a three hour incubation at the intake temperature of 24.7°C. Results indicated a mild stimulation of primary productivity due to condenser passage. Effects encountered prior to passage due to pumping were also considered. It appeared that stimulation occurred but they did not place much confidence in their sampling system.

Summary and application to the Donald C. Cook Nuclear Plant

Past studies have shown that phytoplankton may suffer inhibition or even death due to entrainment and condenser passage. In addition, changes in community structure have been noted. Various authors have concluded that temperature rises which can be tolerated range from 8C° to 11C°. The actual delta-T permissible is related to the intake water temperature. The lower the intake water temperature the greater the tolerable temperature rise. If chlorination is also taking place, the phytoplankton may be killed outright or suffer varying degrees of inhibition.

Communities have been observed to exhibit a decreased diversity promoted by a shift from a diatom dominated community to one dominated by either green algae or blue-green algae in heated waters.

Finally, some evidence exists which suggests that the phytoplankton may be mildly stimulated by mechanical pumping (Gurtz and Weiss, 1972).

Previous Studies at the Cook Plant

In response to the above possible alterations of the phytoplankton community in the vicinity of the Plant, two major studies have been initiated. The first began in 1968. It is directed at determining the long-term effect of the plant on the phytoplankton. This study includes the counting and identification of phytoplankton species at both plant-influenced and non-influenced stations. These data have been used to establish pre-operational phytoplankton trends and variations in the lake against which operational data can be compared. The results of these studies have been reported by Ayers,

et. al. (1970), Ayers, *et. al.* (1971), Ayers, *et. al.* (1972), Ayers and Seibel (1973), Ayers, *et. al.* (1974), Ayers and Kopczynska (1974), Ayers (1975a), and Ayers (1975b).

The second study is being used to ascertain the immediate effect of the plant on the entrained phytoplankton. It will also be used to monitor long-term changes in the phytoplankton. Results of this continuing study for the year 1975 are presented here.

SAMPLE HANDLING AND ANALYSIS

Studies pertaining to entrained phytoplankton at the Donald C. Cook Nuclear Power Plant unit number 1 began in February 1975 and continue at present. Investigation of plant impact on phytoplankton viability, abundance, and species composition has been made in accordance with the Environmental Technical Specifications for the plant. Sampling is conducted on a monthly basis with three approximately one-half hour sampling periods in a 24 hour span: after evening twilight, before morning twilight, and at noon, respectively. During each sampling period, ten samples are collected, five from the intake forebay and five from the discharge forebay (Figure 1). Of each five, two samples are preserved for microscopic investigation of abundance and species composition, and the remaining three are used for spectrophotometric determination of chlorophylls *a*, *b*, and *c* and phaeophytin *a* with subsequent calculation for the phaeophytin *a*/ chlorophyll *a* ratio as an indicator of phytoplankton viability. During the first sampling period, three additional samples are collected from both the intake and discharge forebays. These six samples are incubated at the intake temperature for approximately 36 hours and then treated in the same manner as non-incubated samples for analysis of the chlorophylls and phaeophytin *a*.

Throughout 1975, samples were collected at intake grate MTR 1-5 from a depth of 5.5 m. A study of horizontal and vertical phytoplankton concentrations

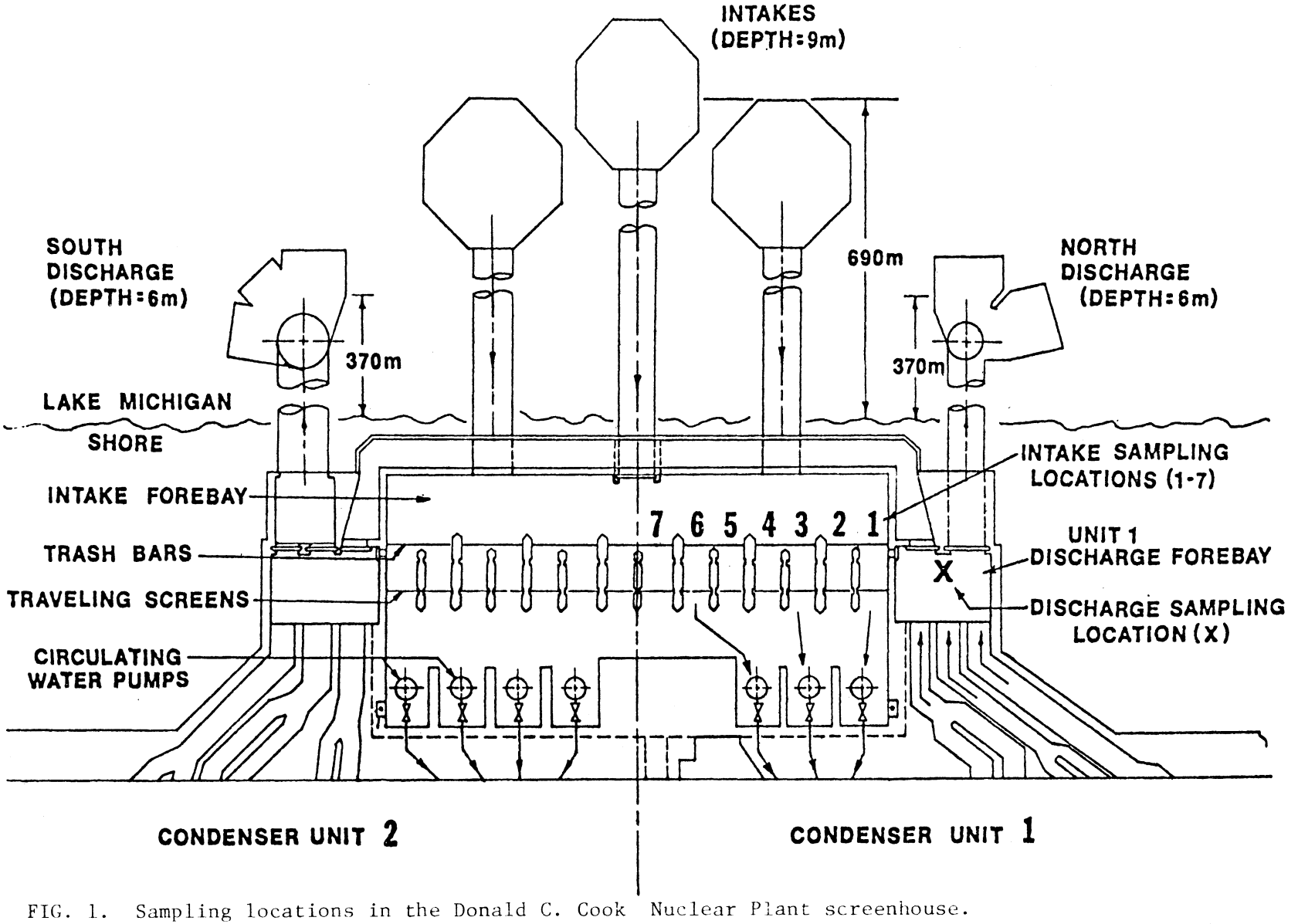

FIG. 1. Sampling locations in the Donald C. Cook Nuclear Plant screenhouse.

in the intake forebay has confirmed our choice of MTR 1-5 at a depth of 5.5 m as a representative sampling point.

Water is collected through hoses at a rate of roughly 227 l/min by diaphragm pumps. As the water is pumped, the intake and discharge water temperatures are measured and samples are collected in one liter polyethylene bottles. Since unit number 1 uses 2.7×10^{6} l/min for cooling, the samples collected by us in our one-half hour sampling time represent approximately 4×10^{-6}% of the water passing through the plant for the chlorophylls and 2×10^{-6}% of the water passing through the plant for the microscopic phytoplankton analysis.

Phytoplankton

Phytoplankton samples are collected from both the intake and discharge forebays (Figure 1). They are, for the most part, collected in duplicate in twice rinsed one liter brown polyethylene bottles and fixed with 6 ml of Lugols' iodine-potassium iodide-glacial acetic acid solution. Slide preparation is similar to the settle-freeze method of Sanford, *et. al.* (1969). One liter samples are settled in graduated cylinders for two days, after which time 900 ml of supernatant is siphoned off. The remaining 100 ml is then agitated to resuspend the settled matter and 18 ml poured into a cylindrical plexiglass settling chamber with a microscope slide at its base. Various dilutions are used to facilitate enumeration and identification when there are high concentrations of suspended material. The chambers are secured to the slides with a minimal amount of stopcock grease on their ends, and the cylinder-slide combinations are held by clamps onto a quarter inch thick aluminum plate. Freezing of the bottom 1.5 ml is accomplished by placing the entire appartus on a block of dry ice for approximately 85 seconds. The supernatant is poured off and when the ice at the bottom of the chamber has

melted sufficiently, the chamber is removed from the slide and the slide with its thin wafer of ice and water is dehydrated in an anhydrous alcohol chamber for two days. This is followed by two days in a toluene chamber to prepare the sample for permanent mounting under a cover slip in Permount.

All counting is done on a Leitz Ortholux at 1250X with a stage micrometer calibrated field width of 90 μm. Identification of specimens is carried to species and variety when possible. Enumeration is all in cells per milliliter except for blue-green filaments with cylindrical trichomes which are in filaments per milliliter. Two complete transects are made on each slide, one horizontal and one vertical, to help offset any patchiness that could occur in distribution. A minimum of 500 cells is counted for each slide to insure reasonable group percentages, more transects and/or higher counts being necessary if a fairly large number or proportion of the cells are in colonial formations.

Chlorophylls and Phaeophytin *a*

The samples selected for incubation are immediately placed in an incubator with the bottle caps removed and allowed to incubate for 36 hours at the intake temperature. Following this they are filtered and treated in the same manner as the non-incubated samples, a modification of the method described by Strickland and Parsons (1972). Each water sample is passed through a 4.25 cm diameter Whatman GF/C glass fiber filter positioned in a 250 ml Millipore filtering apparatus with plastic-tipped forceps. After most of the water has passed into the filtering flask, 1 ml of saturated $MgCO_3$ is added (1 g $MgCO_3 \cdot 4H_2O$/100 g distilled water). The filters are rolled up with the forceps and placed in 12 ml screw cap centrifuge tubes whose caps are teflon lined. Following this, 10 ml of 90% acetone is added using a tilting repipet and the samples are refrigerated. At any convenient time three 1000 ml portions of distilled water are also filtered and extracted for purposes of comparison. The 90% acetone

is prepared by swirling reagent grade acetone with anhydrous Na_2CO_3 and passing it through a Whatman #4 filter containing some additional Na_2CO_3. The acetone is filtered a second time into a volumetric flask containing the appropriate amount of distilled water for a 90% solution (v/v). 500 to 1000 ml portions are made fresh for each month's sampling.

After sampling is completed the extracts are packed on ice in a styrofoam chest and returned to the laboratory. Upon arrival they are inverted three times and then sonified by placing the tubes, six at a time, in a large beaker of crushed ice and water and sonifying at 70% power (Bransolik III sonifier) for 45 seconds. The samples are then allowed to further extract for at least another 15 hours under refrigeration. The tubes with the extracts are again shaken to break up the filters somewhat and then placed in ice water in 22 x 130 mm conical centrifuge tubes. The samples are centrifuged for two minutes at 2100 rpm, to separate the extract from filter fibers and $MgCO_3$. The extract is then decanted into clean tubes using disposable pipets and recentrifuged under the same conditions. This second centrifugation is performed to minimize the problem of filter fibers interfering with the spectrophotometer measurements. Samples are then returned to the refrigerator and taken out individually to warm to room temperature in a small, light-tight centrifuge prior to analysis.

A Beckman model DU spectrophotometer is used for all chlorophyll analyses. Wavelength calibration is made using holmium oxide glass at 453.4 nm. A set of four 10 cm silica cuvettes (5 ml volume) is used for the analyses. Percent transmittance of the extracts relative to 90% acetone is measured at 665, 645, 630, and 750 nm. Four drops (0.1 ml) of 30% HCl is added to the sample in the cuvette with thorough mixing, and percent transmittance is again measured at 665 and 750 nm after four minutes. Data are converted to absorbances and quantities of the various species are calculated using the Strickland and Parsons (1972) equations for chlorophylls *b* and *c* and the Lorenzen equations

(Strickland and Parsons, 1972) for chlorophyll *a* and phaeophytin *a*. Results are expressed as milligrams per cubic meter for each species.

CONDITIONS AT TIME OF COLLECTION

Temperature

Water temperatures at time of sample collection are presented in Table 1. In addition, this table contains dates and times of collection. In 1975, Lake Michigan in the vicinity of the D. C. Cook Plant was well stratified in June. The beginnings of stratification were noted in May. Upwelling occurred during the month of June. The Lake returned to isothermal conditions during the fall overturn in Novermber. Deicing of the Plant's intakes by recirculating heated water out through the center intake pipe began in February and ended in March.

Chlorination

Chlorination occurs twice daily at the Cook Plant. In each case, the period of chlorination is one-half hour. Table 2 is a compilation of the Chlorination times for those days the plant was operating in 1975. At no time did our sampling coincide with the chlorination times.

RESULTS AND DISCUSSION

Phytoplankton

Compiled results of the 1975 entrainment phytoplankton microscopic counts are contained in Appendix 1. These data have been examined in numerous ways to accomplish several objectives. These objectives are: 1) to select a representative sampling point in the intake forebay with unit number one operating, 2) to establish monthly variations in species and numbers of phytoplankton entrained by the plant, 3) to establish whether or not diurnal variations of species and numbers of phytoplankton exist, 4) to establish whether or not

Table 1. Intake and discharge entrainment temperatures at the time of sampling.

Month/Day	Sampling Time	Intake (°C)	Discharge (°C)
February 25	Evening Twilight	2.2	2.5
26	Morning Twilight	4.4	5.5
26	Noon	5.0	6.2
March 11	Evening Twilight	6.0	9.1
12	Morning Twilight	6.4	8.8
12	Noon	5.7	9.0
April 15	Evening Twilight	4.0	12.1
16	Morning Twilight	3.8	10.1
16	Noon	4.2	10.8
May 12	Evening Twilight	6.8	-
13	Morning Twilight	7.0	15.0
14	Noon	7.0	16.0
June 10	Evening Twilight	13.1	21.8
11	Morning Twilight	9.0	17.8
11	Noon	12.2	20.4
July 23	Evening Twilight	24.0	31.1
24	Morning Twilight	23.5	31.5
24	Noon	24.0	32.0
August 11	Evening Twilight	21.5	30.0
12	Morning Twilight	22.0	30.5
12	Noon	22.8	32.0
September 8	Evening Twilight	19.5	28.5
9	Morning Twilight	19.5	28.0
9	Noon	19.5	28.0
October 22	Evening Twilight	14.3	22.3
23	Morning Twilight	14.4	22.9
23	Noon	14.5	22.9
November 17	Evening Twilight	10.2	19.0
18	Morning Twilight	10.2	18.7
18	Noon	10.0	18.8
December 10	Evening Twilight	5.4	16.0
11	Morning Twilight	6.0	17.0
11	Noon	6.0	16.8

Table 2. Chlorination times on the days of phytoplankton entrainment.

Date		Time, EST
February	25	1100, 2300
	26	1100, 2300
March	11	1100, 2300
	12	1100, 2300
April	15	1100, 2300
	16	1100, 2300
May	12	1000, 2200
	13	1000, 2200
	14	1000, 2200
June	10	1000, 2200
	11	1000, 2200
July	23	-
	24	-
August	11	1000, 2200
	12	1000, 2200
September	8	1000, 2200
	9	1000, 2200
October	22	1000, 2200
	23	1000, 2200
November	17	1000, 2200
	18	1000, 2200
December	10	1000
	11	1000, 2200

intake and discharge samples can be used to determine if the same population is sampled from both, and 5) to compare plume samples to samples collected in the plant at roughly the same time.

Horizontal and Vertical Sample Heterogeneity

This investigation was conducted in May 1975. Table 3 contains the results of the horizontal study where samples were collected from 3 locations (Figure 1) at a depth of 5.5 m. These locations were in front of traveling screens MTR 1-1, MTR 1-3, and MTR 1-5. Table 4 contains results of a vertical study where samples were collected from depths of 0.5, 5.5, and 8.5 m from in front of traveling screen MTR 1-5. Table 5 contains results for each major group. Complete results of these studies are contained in Appendix 2. All samples were collected in triplicate. The phytoplankton were divided into nine major groups. Each of these plus total numbers was subjected to one-way analysis of variance to determine the significance of horizontal and vertical variabilities (Tables 3 and 4). In no instance was there a significant difference between sampling depths or horizontal location of the samples at the 0.5 level of significance. Based upon these data and convenience of sampling, MTR 1-5 at a depth of 5.5 m was selected as the representative sampling point for all unit number one entrainment work.

Monthly Variations of Phytoplankton Entrained by the Plant

Variations in the phytoplankton entrained by the plant during 1975 on a monthly basis are looked at in two ways. These are: 1) monthly means and associated standard errors and 2) dominant species or forms for each month. Table 6 is a compilation of results for major groups for every slide counted. Figures 2 through 10 are plots of the monthly means and associated standard errors for each major group plus total numbers. Desmids are excluded because of their consistently low abundance.

Table 3. Horizontal homogeneity of samples collected from the intake forebay (3 replicates for each location).

Major Group	Location	(cells/ml) Mean	(cells/ml) Std. Deviation	One-way Analysis of Variance F-statistic	Significance
Coccoid Blue-Green	MTR 1-1	100.37	47.876		
"	MTR 1-3	136.63	98.428		
"	MTR 1-5	115.40	114.43	0.11917	0.8897
Filamentous Blue Green	MTR 1-1	41.467	14.450		
"	MTR 1-3	34.133	33.761		
"	MTR 1-5	23.333	3.5218	0.55023	0.6034
Coccoid Green	MTR 1-1	53.700	27.084		
"	MTR 1-3	101.83	47.191		
"	MTR 1-5	57.700	17.843	1.9582	0.2215
Filamentous Green	MTR 1-1	4.6000	4.0150		
"	MTR 1-3	1.7667	1.6743		
"	MTR 1-5	3.3667	1.9140	0.80416	0.4904
Flagellates	MTR 1-1	381.20	104.86		
"	MTR 1-3	213.37	214.14		
"	MTR 1-5	219.50	100.14	1.2190	0.3595
Pennate Diatoms	MTR 1-1	92.367	52.979		
"	MTR 1-3	44.667	32.755		
"	MTR 1-5	63.833	45.188	0.87565	0.4638
Centric Diatoms	MTR 1-1	397.77	146.69		
"	MTR 1-3	205.90	164.71		
"	MTR 1-5	361.00	244.58	0.86047	0.4693
Desmids	MTR 1-1	0.9000	0.9000		
"	MTR 1-3	2.4000	2.8160		
"	MTR 1-5	2.7333	1.6166	0.75602	0.5095

Table 3. continued.

Major Group	Location	(cells/ml) Mean	(cells/ml) Std. Deviation	One-way Analysis of Variance F-statistic	Significance
Other	MTR 1-1	29.767	13.860		
"	MTR 1-3	24.000	20.736		
"	MTR 1-5	24.567	14.545	0.10907	0.8984
Total	MTR 1-1	1102.2	279.79		
"	MTR 1-3	764.70	432.76		
"	MTR 1-5	871.47	527.73	0.49214	0.6340

Table 4. Vertical heterogeneity of samples collected from the intake forebay (3 replicates for each depth).

Major Group	Depth(m)	(cells/ml) Mean	(cells/ml) Std. Deviation	One-way Analysis of Variance F-statistic	Significance
Coccoid Blue-Green	0.6	257.83	94.921		
"	5.5	125.37	146.22		
"	8.5	552.90	740.68	0.74456	0.5142
Filamentous Blue Green	0.6	16.200	6.1098		
"	5.5	25.767	15.191		
"	8.5	23.533	21.785	0.30352	0.7489
Coccoid Green	0.6	201.07	74.385		
"	5.5	220.97	222.83		
"	8.5	274.57	117.90	0.18826	0.8331
Filamentous Green	0.6	1.2000	1.0392		
"	5.5	1.2000	1.0392		
"	8.5	3.0333	1.1547	2.8865	0.1324
Flagellates	0.6	171.30	24.904		
"	5.5	160.90	117.26		
"	8.5	256.13	140.95	0.71739	0.5256
Pennate Diatoms	0.6	62.133	4.6608		
"	5.5	58.600	34.158		
"	8.5	87.500	42.550	0.74583	0.5137
Centric Diatoms	0.6	286.47	102.72		
"	5.5	255.27	113.00		
"	8.5	514.10	160.92	3.6509	0.0918
Desmids	0.6	2.1000	1.4731		
"	5.5	2.1000	1.4731		
"	8.5	3.0667	2.8042	0.22972	0.8014

Table 4. continued.

Major Group	Depth(m)	(cells/ml) Mean	(cells/ml) Std. Deviation	One-way Analysis of Variance F-statistic	Significance
Other	0.6	33.567	5.3948		
"	5.5	43.167	25.792		
"	8.5	25.600	15.254	0.75115	0.5115
Total	0.6	1031.9	135.84		
"	5.5	893.47	362.10		
"	8.5	1740.5	787.42	2.4142	0.1701

Table 5. Density (cells/ml) of each of the major groups of phytoplankton measured in the homogeneity for 1975. The full name of the nine major groups are as follows: coccoid blue-greens, filamentous blue-greens, coccoid greens, filamentous greens, flagellates, centric diatoms, pennate diatoms, desmids and others. The water temperature at each station is given. Station includes the station number and time of collection (EST).

Date	Station	Temp(C)	Coc.B.G.	Fil.B.G.	Coc.Grn.	Fil.Grn.	Flagell.	Centrics	Pennates	Desmids	Other	Total
28 MAY 75	I1A 5.5M	16.5	51.6	57.1	46.0	9.2	408.8	95.7	263.3	1.8	38.7	972.2
28 MAY 75	I1B 5.5M	16.5	147.3	38.7	31.3	1.8	469.5	143.6	554.2	0.0	36.8	1423.3
28 MAY 75	I1C 5.5M	16.5	102.2	28.6	83.8	2.8	265.3	37.8	375.8	0.9	13.8	911.0
28 MAY 75	I3A 5.5M	16.2	238.7	24.0	154.2	0.8	78.7	17.4	79.6	1.7	13.3	608.4
28 MAY 75	I3B 5.5M	16.2	128.9	71.8	62.6	3.7	460.3	81.0	392.2	5.5	47.9	1253.9
28 MAY 75	I3C 5.5M	16.2	42.3	6.6	88.7	0.8	101.1	35.6	145.9	0.0	10.8	431.8
28 MAY 75	I5A 5.5M	16.8	17.5	24.9	53.4	2.8	164.0	36.8	155.7	1.8	21.2	478.1
28 MAY 75	I5B 5.5M	16.8	241.2	25.8	77.3	1.8	335.1	116.0	631.6	1.8	40.5	1471.2
28 MAY 75	I5C 5.5M	16.8	87.5	19.3	42.4	5.5	159.4	38.7	295.7	4.6	12.0	665.1
29 MAY 75	I5A 0.6M	16.0	165.8	9.9	139.2	0.0	173.2	63.0	319.9	0.8	38.1	910.1
29 MAY 75	I5B 0.6M	16.0	355.4	22.1	180.4	1.8	145.5	66.3	368.3	3.7	35.0	1178.4
29 MAY 75	I5C 0.6M	16.0	252.3	16.6	283.6	1.8	195.2	57.1	171.2	1.8	27.6	1007.2
29 MAY 75	I5A 5.5M	16.0	1.8	33.1	476.9	1.8	287.2	97.6	370.1	3.7	38.7	1311.0
29 MAY 75	I5B 5.5M	16.0	296.8	8.3	116.0	0.0	55.5	34.0	144.2	0.8	19.9	665.6
29 MAY 75	I5C 5.5M	16.0	87.5	35.9	70.0	1.8	140.0	44.2	251.5	1.8	70.9	703.8
29 MAY 75	I5A 8.5M	16.0	235.4	2.5	227.1	1.7	95.3	98.6	496.5	0.0	11.6	1168.7
29 MAY 75	I5B 8.5M	16.0	1399.4	22.1	408.8	3.7	353.5	40.5	362.7	5.5	42.3	2638.6
29 MAY 75	I5C 8.5M	16.0	23.9	46.0	187.8	3.7	320.4	123.4	683.1	3.7	22.1	1414.1

Table 6. Density (cells/ml) of each of the major groups of phytoplankton measured in the entrainment for 1975. The full name of the nine major groups are as follows: coccoid blue-greens, filamentous blue-greens, coccoid greens, filamentous greens, flagellates, centric diatoms, pennate diatoms, desmids and others. The water temperature at each station is given. Station includes the station number and time of collection (EST).

Date	Station	Temp(C)	Coc.B.G.	Fil.B.G.	Coc.Grn.	Fil.Grn.	Flagell.	Centrics	Pennates	Desmids	Other	Total
25 FEB 75	IS 2000	2.2	0.0	3.7	14.7	0.0	110.5	788.1	1211.6	0.0	7.4	2135.9
25 FEB 75	I6 2000	2.2	0.0	81.0	58.9	92.1	70.0	758.6	1410.4	0.0	25.8	2496.8
25 FEB 75	D 2000	2.5	136.3	18.4	3.7	11.0	55.2	758.6	1484.1	0.0	0.0	2467.3
26 FEB 75	IS 0745	4.4	11.0	18.4	0.0	0.0	95.7	802.8	1149.0	0.0	0.0	2077.0
26 FEB 75	I6 0745	4.4	0.0	14.7	73.7	7.4	95.7	1819.2	2356.9	0.0	0.0	4367.6
26 FEB 75	D 0745	5.5	456.6	33.1	55.2	29.5	243.1	869.1	2014.4	3.7	18.4	3723.1
26 FEB 75	IS 1230	5.0	0.0	51.6	22.1	7.4	66.3	1539.3	2732.5	0.0	0.0	4419.1
26 FEB 75	I6 1230	5.0	368.3	22.1	0.0	11.0	40.5	1149.0	1300.0	3.7	3.7	2898.2
26 FEB 75	D 1230	6.2	7.4	11.0	125.2	3.7	47.9	835.9	1097.9	0.0	0.0	2129.0
11 MAR 75	IS 2015	6.0	445.6	44.2	36.8	36.8	441.9	1266.8	1885.5	3.7	40.5	4201.8
11 MAR 75	I6 2015	6.0	0.0	22.1	22.1	18.4	246.7	1263.1	1079.0	0.0	36.8	2698.3
11 MAR 75	D 2015	9.1	1694.0	191.5	250.4	58.9	626.0	1230.0	1900.2	0.0	51.6	6002.6
12 MAR 75	IS 0550	6.4	0.0	77.3	33.1	95.7	346.2	887.5	1053.2	0.0	25.8	2518.9
12 MAR 75	I6 0550	6.4	0.0	58.9	25.8	14.7	221.0	1042.2	1171.1	0.0	11.0	2544.7
12 MAR 75	D 0550	8.8	117.8	51.6	14.7	88.4	125.2	2077.0	1885.5	0.0	22.1	4382.3
12 MAR 75	IS 1220	5.7	7.4	14.7	55.2	0.0	147.3	1115.8	769.7	0.0	25.8	2135.9
12 MAR 75	I6 1220	5.7	0.0	36.8	29.5	0.0	154.7	1322.1	1333.1	0.0	14.7	2890.8
12 MAR 75	D 1220	9.0	44.2	40.5	29.5	0.0	165.7	1377.3	979.6	3.7	11.0	2651.5
15 APR 75	IS 2110	4.0	600.3	18.4	14.7	0.0	460.3	2043.8	802.8	0.0	36.8	3977.2
15 APR 75	D 2110	12.1	0.0	22.1	103.1	0.0	1620.3	4023.4	2504.2	0.0	29.5	8602.5
16 APR 75	IS 0515	3.8	405.1	51.6	81.0	0.0	905.9	2386.3	1325.7	7.4	139.9	5302.9
16 APR 75	D 0515	10.1	29.5	14.7	14.7	0.0	338.8	3152.3	920.6	0.0	58.9	4529.6
16 APR 75	IS 1200	4.2	718.1	33.1	33.1	0.0	1093.7	2018.1	1119.5	0.0	95.7	5111.4
16 APR 75	D 1200	10.8	121.5	25.8	51.6	0.0	725.5	1366.2	276.2	0.0	55.2	2622.0
12 MAY 75	D 2145	0.0	824.9	14.7	36.8	0.0	360.9	1775.0	2931.3	0.0	44.2	5987.9
14 MAY 75	IS 0400	7.0	1321.2	29.8	28.2	6.6	223.8	213.8	530.5	0.0	34.8	2388.7
14 MAY 75	D 0400	15.0	891.2	191.5	22.1	0.0	802.8	891.2	3631.0	7.4	117.8	6555.0
13 MAY 75	IS 1115	7.0	824.9	66.3	29.5	7.4	692.3	1023.8	2887.2	0.0	66.3	5597.5
13 MAY 75	D 1115	16.0	14.7	51.6	125.2	0.0	559.8	1369.9	2135.9	0.0	58.9	4316.0
10 JUN 75	I5A 2140	13.1	29.5	316.7	169.4	250.4	364.6	670.2	1870.8	0.0	294.6	3966.2
10 JUN 75	I5B 2140	13.1	29.5	324.1	169.4	22.1	508.2	1112.1	1642.4	0.0	139.9	3947.7
10 JUN 75	DA 2140	21.8	0.0	493.5	221.0	0.0	802.8	935.4	1377.3	0.0	132.6	3962.5
10 JUN 75	DB 2140	21.8	0.0	368.3	73.7	0.0	861.7	1005.3	1495.1	0.0	331.4	4135.6
11 JUN 75	I5A 0330	9.0	0.0	335.1	44.2	25.8	434.5	637.1	946.4	0.0	95.7	2518.9
11 JUN 75	I5B 0330	9.0	0.0	232.0	70.0	0.0	534.0	563.4	769.7	3.7	36.8	2209.6
11 JUN 75	DA 0330	17.8	0.0	537.7	103.1	0.0	839.6	883.8	1333.1	7.4	117.8	3822.5
11 JUN 75	DB 0330	17.8	1252.1	294.6	81.0	7.4	1576.2	486.1	883.8	7.4	58.9	4647.4
11 JUN 75	I5A 1120	12.2	1509.9	324.1	206.2	0.0	677.6	1001.7	869.1	7.4	287.2	4883.1
11 JUN 75	I5B 1120	12.2	0.0	92.1	106.8	47.9	777.0	692.3	1053.2	3.7	136.3	2909.3
11 JUN 75	DA 1120	20.4	0.0	95.7	125.2	0.0	239.4	670.2	961.2	0.0	70.0	2161.7
11 JUN 75	DB 1120	20.4	0.0	353.5	324.1	0.0	2018.1	1142.2	1436.2	0.0	66.3	5340.4
23 JUL 75	I5A 2155	24.0	1852.3	47.9	500.8	0.0	581.9	534.0	25.8	3.7	563.4	4109.8

Table 6. Continued.

Date	Station	Temp(C)	Coc.B.G.	Fil.B.G.	Coc.Grn.	Fil.Grn.	Flagell.	Centrics	Pennates	Desmids	Other	Total
23 JUL 75	I5E 2155	24.0	1366.2	3.7	673.9	0.0	747.6	1642.4	73.7	0.0	578.2	5085.7
23 JUL 75	DA 2155	31.1	1149.0	36.8	537.7	0.0	198.9	1196.8	62.6	0.0	243.1	3424.8
23 JUL 75	DB 2155	31.1	1082.7	110.5	1417.8	0.0	659.2	1495.1	81.0	3.7	806.5	5656.5
24 JUL 75	I5A 0445	23.5	1086.4	62.6	828.6	0.0	592.9	592.9	95.7	3.7	423.5	3686.3
24 JUL 75	I5E 0445	23.5	578.2	3.7	1252.1	3.7	869.1	861.7	44.2	0.0	441.9	4054.5
24 JUL 75	DA 0445	31.5	324.1	51.6	1694.0	0.0	1303.6	802.8	184.1	14.7	891.2	5266.1
24 JUL 75	DB 0445	31.5	29.5	103.1	729.2	0.0	626.0	813.9	125.2	0.0	394.0	2820.9
24 JUL 75	I5A 1115	24.0	1590.9	84.7	975.9	0.0	294.6	718.1	58.9	0.0	283.6	4006.7
24 JUL 75	I5E 1115	24.0	817.5	324.1	1005.3	0.0	449.3	482.4	125.2	0.0	371.9	3575.8
24 JUL 75	DA 1115	32.0	1211.6	147.3	1042.2	0.0	302.0	696.0	81.0	0.0	371.9	3852.0
24 JUL 75	DB 1115	32.0	1565.1	165.7	1336.8	0.0	110.5	1130.6	132.6	0.0	386.7	4827.9
11 AUG 75	I5A 2115	21.5	293.8	3.7	184.2	0.0	107.8	122.5	84.7	1.8	23.9	822.6
11 AUG 75	I5E 2115	21.5	418.0	7.4	162.0	0.0	524.8	136.3	147.3	1.8	36.8	1434.4
11 AUG 75	DA 2115	30.0	314.1	8.3	114.2	7.4	567.4	112.4	124.4	0.0	52.5	1300.7
11 AUG 75	DB 2115	30.0	186.7	2.8	106.9	1.8	410.8	136.3	59.0	1.8	53.4	939.6
12 AUG 75	I5A 0455	22.0	230.3	0.9	96.7	0.0	266.2	102.2	57.1	0.0	27.1	780.6
12 AUG 75	I5E 0455	22.0	53.4	11.0	180.4	0.0	769.7	213.6	57.1	0.0	90.2	1375.5
12 AUG 75	DA 0455	30.5	29.5	33.1	563.4	0.0	416.1	346.2	202.5	0.0	287.2	1878.1
12 AUG 75	DB 0455	30.5	580.0	9.2	302.0	0.0	377.5	169.4	108.6	0.0	14.7	1561.4
12 AUG 75	I5A 1105	22.8	279.9	0.0	200.7	0.0	753.3	46.0	18.4	0.0	27.6	1325.9
12 AUG 75	I5E 1105	22.8	258.8	2.8	162.1	0.0	601.5	48.8	19.3	0.0	20.3	1113.7
12 AUG 75	DA 1105	32.0	629.7	9.2	103.1	0.0	661.0	84.7	14.7	0.0	9.2	1511.7
12 AUG 75	DB 1105	32.0	174.1	18.4	186.1	0.9	589.5	71.8	124.4	0.0	17.5	1182.8
8 SEP 75	I5 2037	19.5	1587.2	25.8	250.4	0.0	915.1	84.7	482.4	0.0	25.8	3371.4
8 SEP 75	D 2037	28.5	1126.9	0.0	267.0	0.0	633.4	123.4	690.5	0.0	60.8	2901.9
9 SEP 75	I5A 0515	19.5	504.5	0.0	70.0	0.0	677.6	64.4	154.7	0.0	77.3	1548.5
9 SEP 75	I5E 0515	19.5	1491.5	12.9	152.8	0.0	1082.7	47.9	158.4	0.0	31.3	2977.4
9 SEP 75	DA 0515	28.5	883.8	95.7	97.6	0.0	548.9	44.2	298.3	0.0	9.2	1977.7
9 SEP 75	DB 0515	28.5	1266.2	0.0	151.0	0.0	567.1	51.6	200.7	0.0	33.2	2269.7
9 SEP 75	I5A 1115	19.5	1706.9	0.0	68.1	0.0	421.7	64.4	152.8	0.0	31.3	2445.2
9 SEP 75	I5E 1115	19.5	1648.0	0.0	147.3	0.0	279.9	47.9	162.0	0.0	0.0	2285.1
9 SEP 75	DA 1115	28.0	416.1	1.8	103.1	0.0	338.8	51.6	108.6	0.0	29.5	1049.5
9 SEP 75	DB 1115	28.0	2292.4	1.8	250.4	0.0	255.9	119.7	464.0	0.0	44.2	3428.5
22 OCT 75	I5A 1950	14.3	534.0	79.2	160.2	0.0	1121.4	211.7	375.6	3.7	46.0	2531.8
22 OCT 75	I5E 1950	14.3	162.0	294.6	95.7	0.0	681.3	397.7	331.4	0.0	18.4	1951.2
22 OCT 75	DA 1950	22.3	290.9	11.0	75.5	1.8	93.9	232.0	209.9	1.8	49.7	966.7
22 OCT 75	DB 1950	22.3	904.1	7.4	136.3	9.2	287.2	313.0	217.3	1.8	42.3	1918.6
23 OCT 75	I5A 0453	14.4	603.9	18.4	105.0	0.0	535.8	204.4	114.2	0.0	49.7	1631.4
23 OCT 75	I5E 0453	14.4	1502.5	184.1	117.8	0.0	644.5	233.8	244.9	0.0	31.3	2959.0
23 OCT 75	DA 0453	22.9	405.1	33.1	47.9	7.4	576.4	335.1	278.0	0.0	25.8	1708.8
23 OCT 75	DB 0453	22.9	1821.0	163.9	123.4	0.0	937.2	379.3	423.5	0.0	66.3	3914.6
23 OCT 75	I5A 1115	14.5	1578.0	36.8	46.0	0.0	913.3	200.7	160.2	0.0	46.0	2981.1
23 OCT 75	I5E 1115	14.5	2511.5	0.0	246.7	5.5	922.5	279.9	406.9	0.0	18.4	4391.5
23 OCT 75	DA 1115	22.9	510.0	335.1	156.5	9.2	922.5	383.0	524.8	1.8	55.2	2898.2
23 OCT 75	DB 1115	22.9	519.2	22.1	81.0	0.0	721.8	263.3	255.9	0.0	75.5	1938.9

Table 6. Continued.

Date	Station	Temp(C)	Coc.B.G.	Fil.B.G.	Coc.Grn.	Fil.Grn.	Flagell.	Centrics	Pennates	Desmids	Other	Total
17 NOV 75	I5A 1930	10.2	0.0	0.0	58.9	0.0	324.1	206.2	436.4	1.8	68.1	1095.6
17 NOV 75	I5B 1930	10.2	0.0	0.0	147.3	0.0	703.4	401.4	788.1	0.0	73.7	2113.8
17 NOV 75	DA 1930	19.0	73.7	0.0	5.7	0.0	478.7	298.3	186.0	0.0	18.4	1060.7
17 NOV 75	DB 1930	19.0	305.7	0.0	38.7	0.0	430.9	132.6	228.3	0.0	22.1	1158.2
18 NOV 75	I5A 0600	10.2	766.0	3.7	198.9	3.7	327.8	821.2	802.8	0.0	114.2	3038.1
18 NOV 75	I5B 0600	10.2	0.0	1.8	42.3	0.0	493.5	287.2	176.8	0.0	38.7	1040.3
18 NOV 75	DA 0600	18.7	1447.3	0.0	7.4	0.0	151.0	534.0	681.3	0.0	110.5	2931.3
18 NOV 75	DB 0600	18.7	843.3	0.0	73.7	0.0	191.5	228.3	377.5	0.0	14.7	1729.0
18 NOV 75	I5A 1300	10.1	773.3	40.5	125.2	0.0	198.9	545.0	644.5	3.7	62.6	2393.7
18 NOV 75	I5B 1300	10.0	802.8	0.0	850.7	0.0	611.3	169.4	379.3	0.0	11.0	2824.6
18 NOV 75	DA 1300	18.8	453.0	213.6	40.5	0.0	603.9	732.8	920.6	0.0	125.2	3089.7
18 NOV 75	DB 1300	18.8	1730.8	0.0	66.3	14.7	486.1	489.8	392.1	0.0	128.9	3308.7
10 DEC 75	I5A 1835	5.4	0.0	7.4	526.6	44.2	493.5	1193.2	497.2	0.0	25.8	2787.7
10 DEC 75	DA 1835	16.0	0.0	29.5	40.5	51.6	342.5	2283.2	522.9	0.0	44.2	3314.3
10 DEC 75	DB 1835	16.0	7.4	3.7	58.9	0.0	221.0	2003.3	232.0	0.0	36.8	2563.1
11 DEC 75	I5A 0735	6.0	1034.8	0.0	81.0	0.0	316.7	1270.5	206.2	0.0	55.2	2964.5
11 DEC 75	I5B 0735	6.0	110.5	7.4	22.1	0.0	637.1	1185.8	294.6	0.0	114.2	2371.6
11 DEC 75	DA 0735	17.0	699.7	88.4	294.6	0.0	81.0	1786.2	493.5	0.0	154.7	3598.1
11 DEC 75	DB 0735	17.0	0.0	7.4	51.6	58.9	331.4	2401.1	530.3	0.0	29.5	3410.1
11 DEC 75	I5A 1240	6.0	36.8	14.7	14.7	0.0	754.9	1977.6	254.1	0.0	88.4	3141.3
11 DEC 75	I5B 1240	6.0	44.2	7.4	29.5	0.0	213.6	1270.5	187.8	0.0	25.8	1778.7
11 DEC 75	DA 1240	16.8	0.0	0.0	55.2	3.7	434.5	1782.4	246.7	0.0	99.4	2622.0
11 DEC 75	DB 1240	16.8	0.0	3.7	33.1	0.0	228.3	1554.1	202.5	0.0	103.1	2124.9

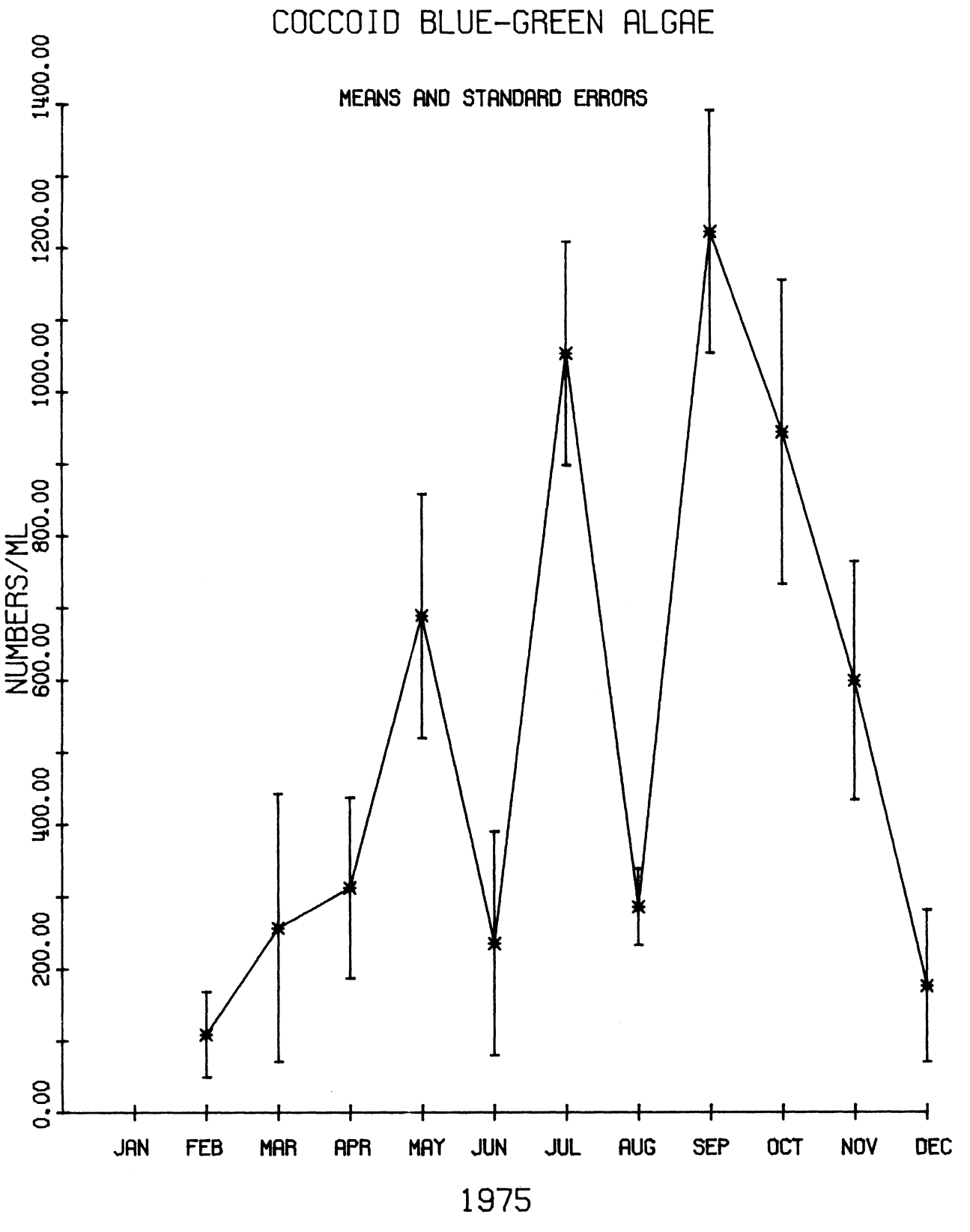

FIG. 2. Variation of coccoid blue-green algae numbers during 1975.

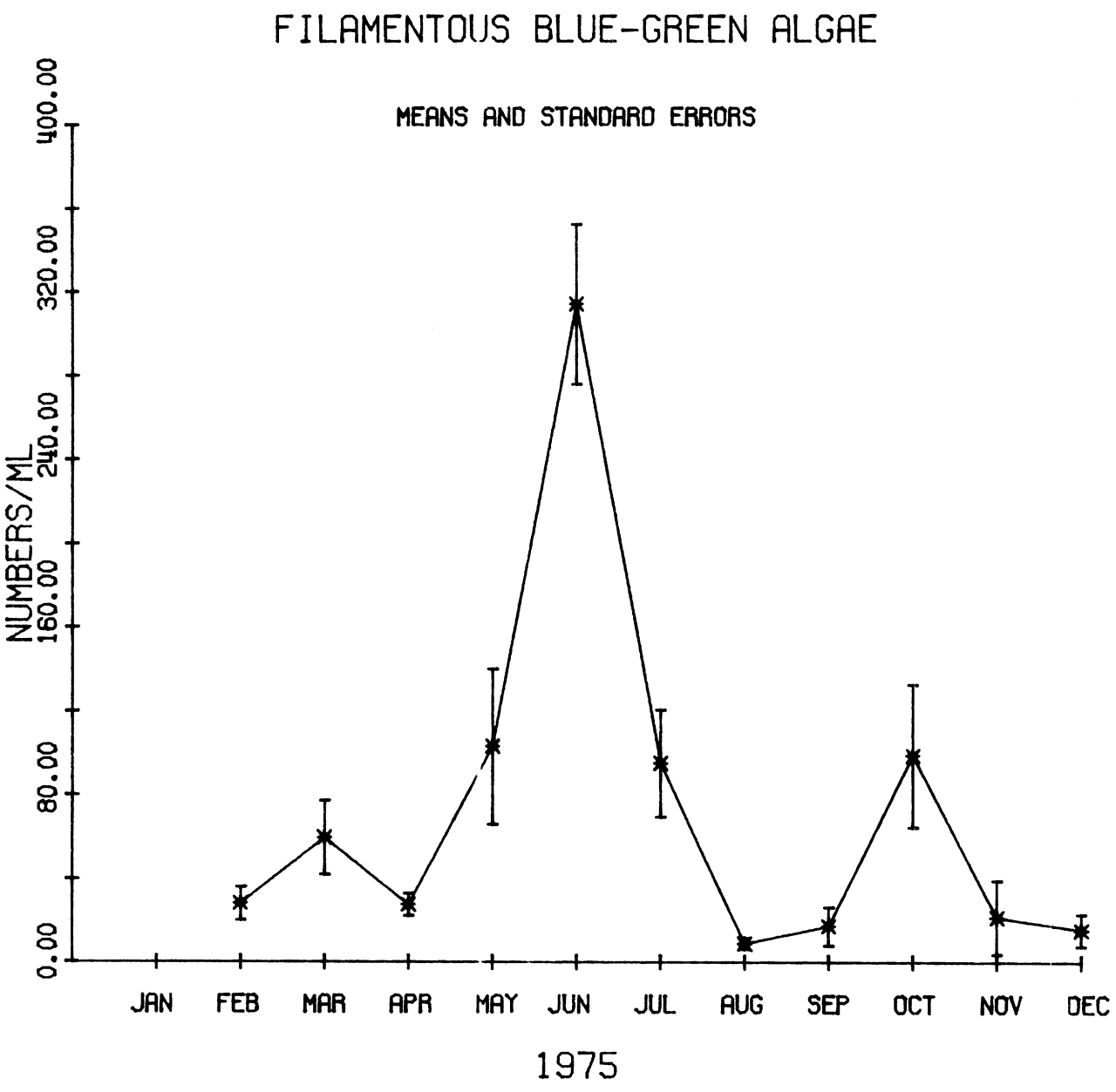

FIG. 3. Variation of filamentous blue-green algae numbers during 1975.

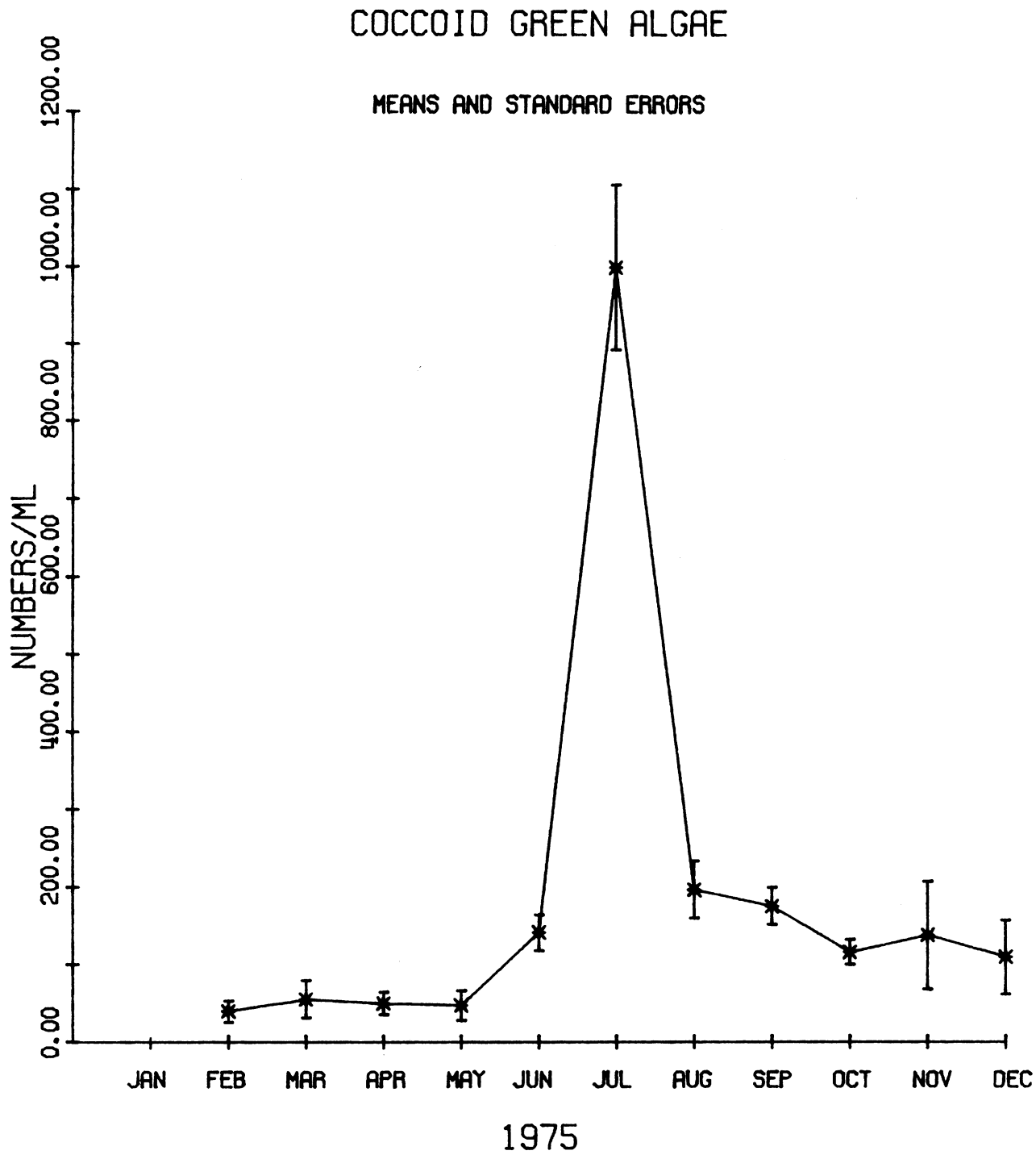

FIG. 4. Variation of coccoid green algae numbers during 1975.

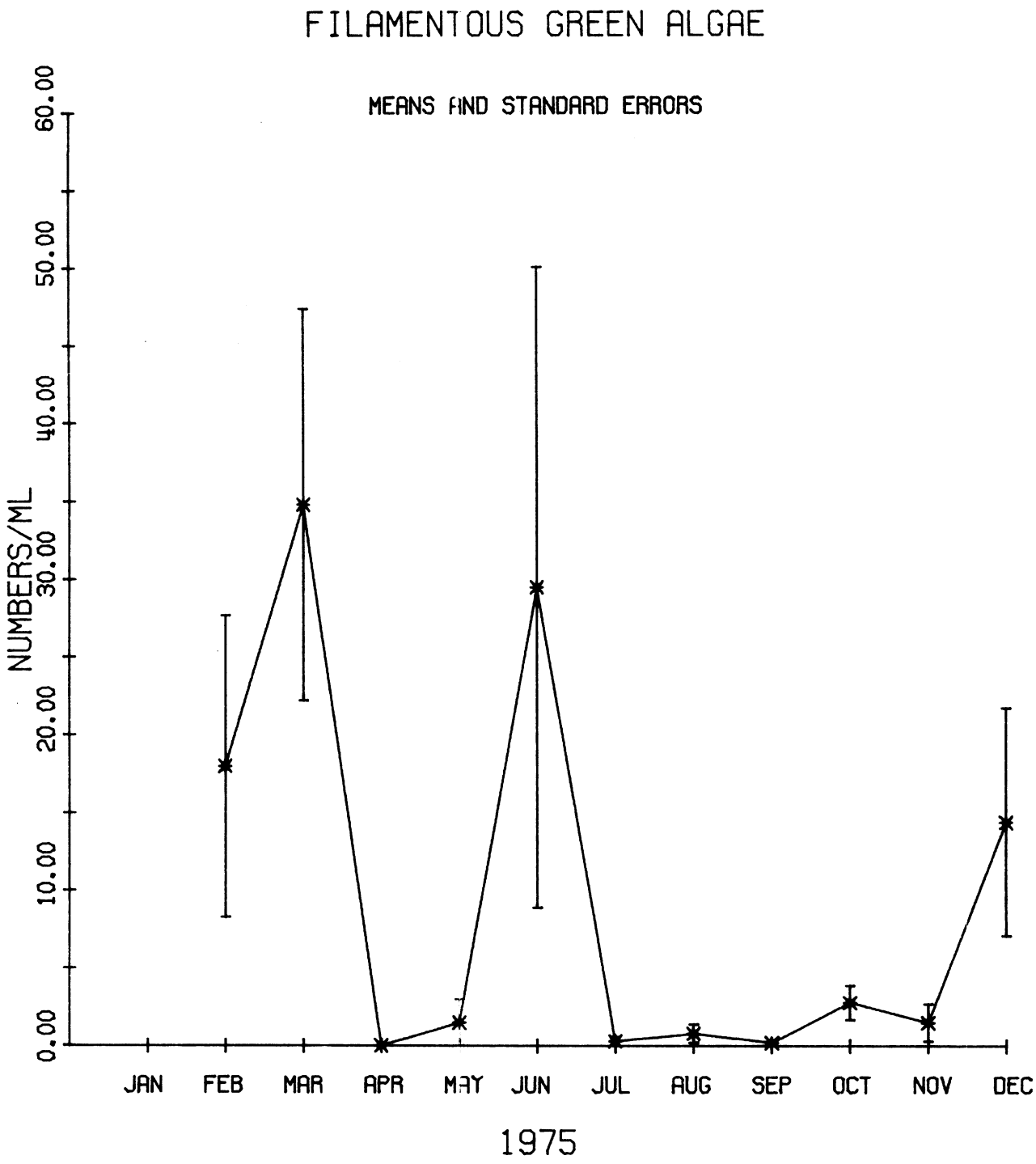

FIG. 5. Variation of filamentous green algae numbers during 1975.

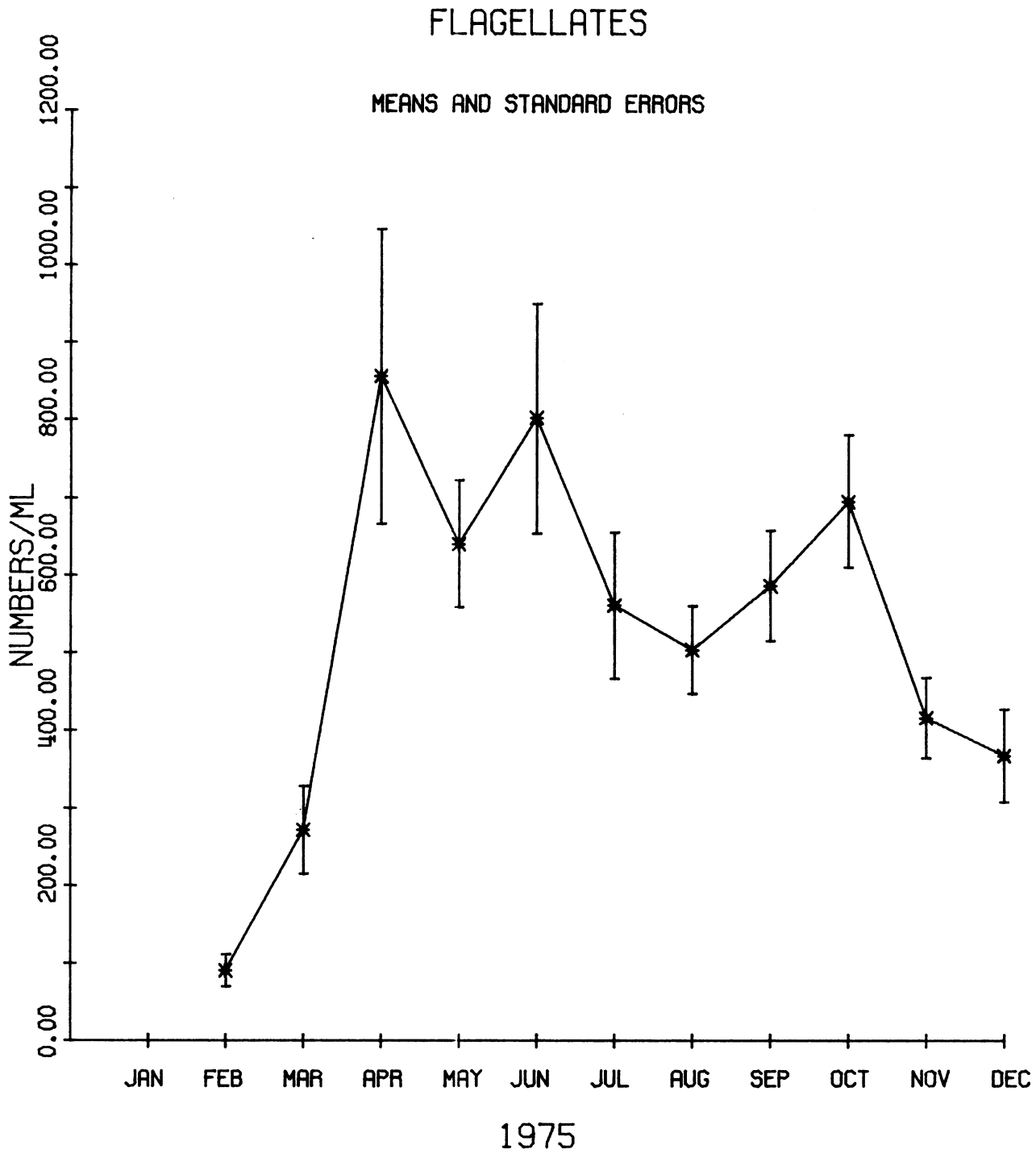

FIG. 6. Variation of flagellated algae numbers during 1975.

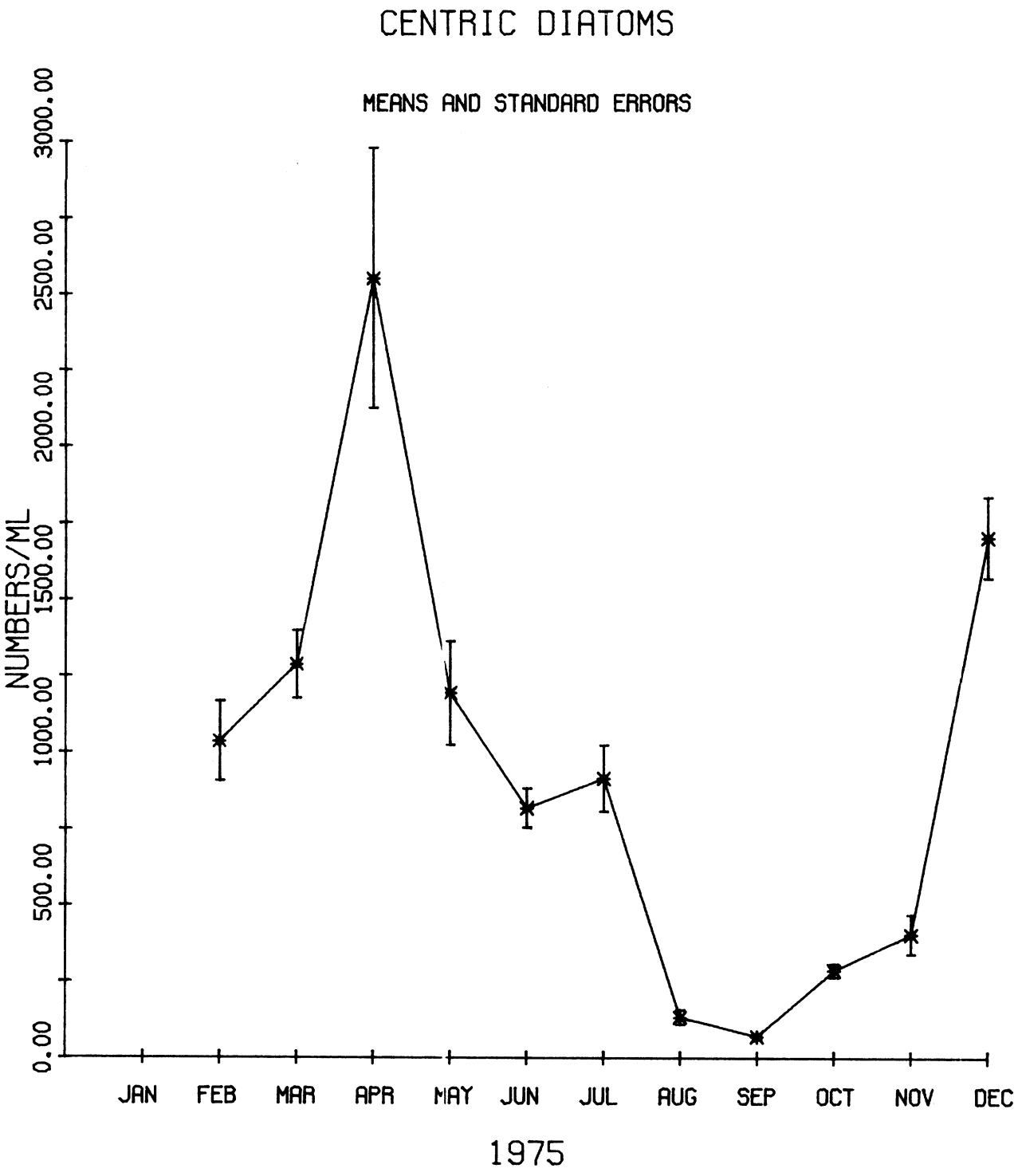

FIG. 7. Variation of centric diatom numbers during 1975.

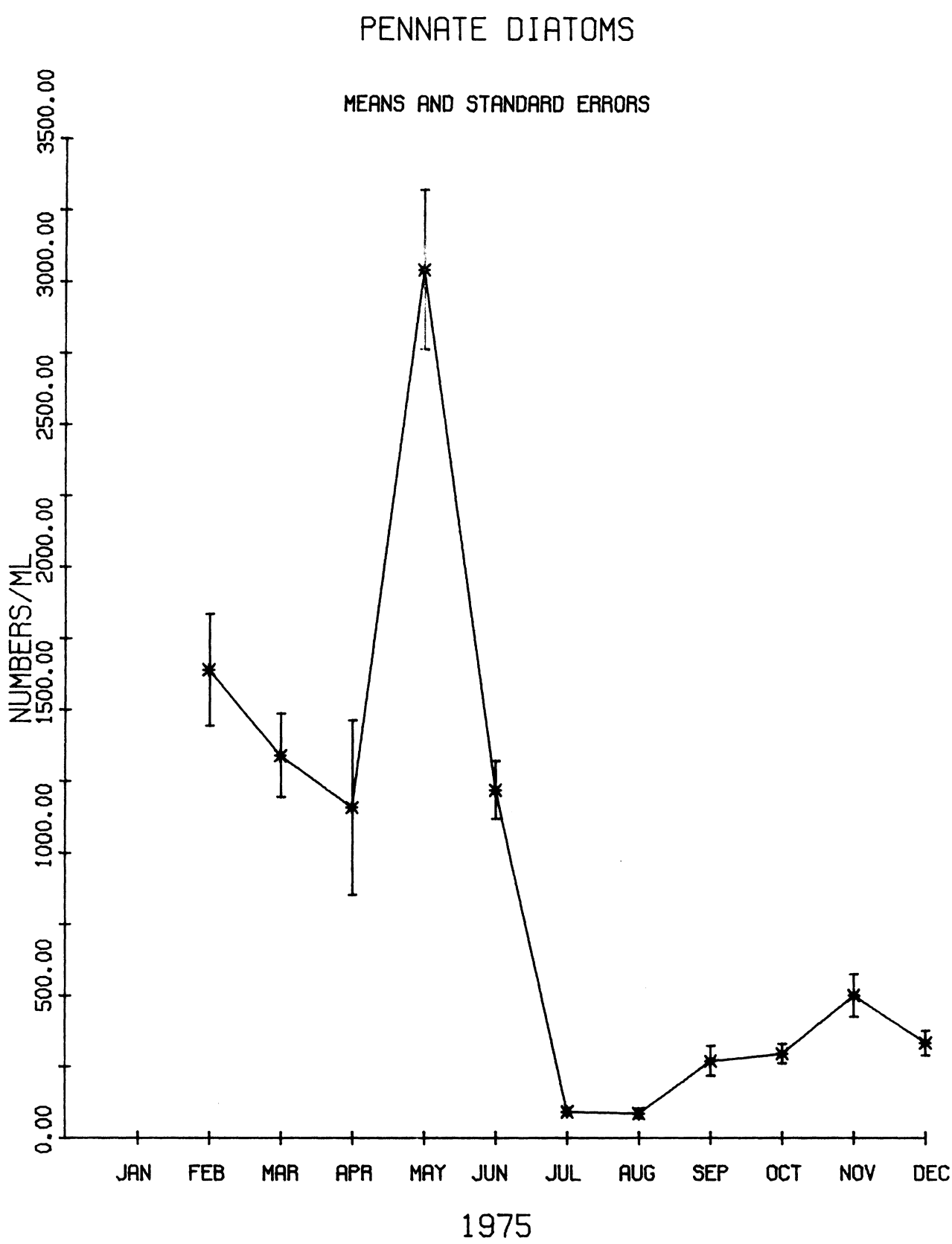

FIG. 8. Variation of pennate diatom numbers during 1975.

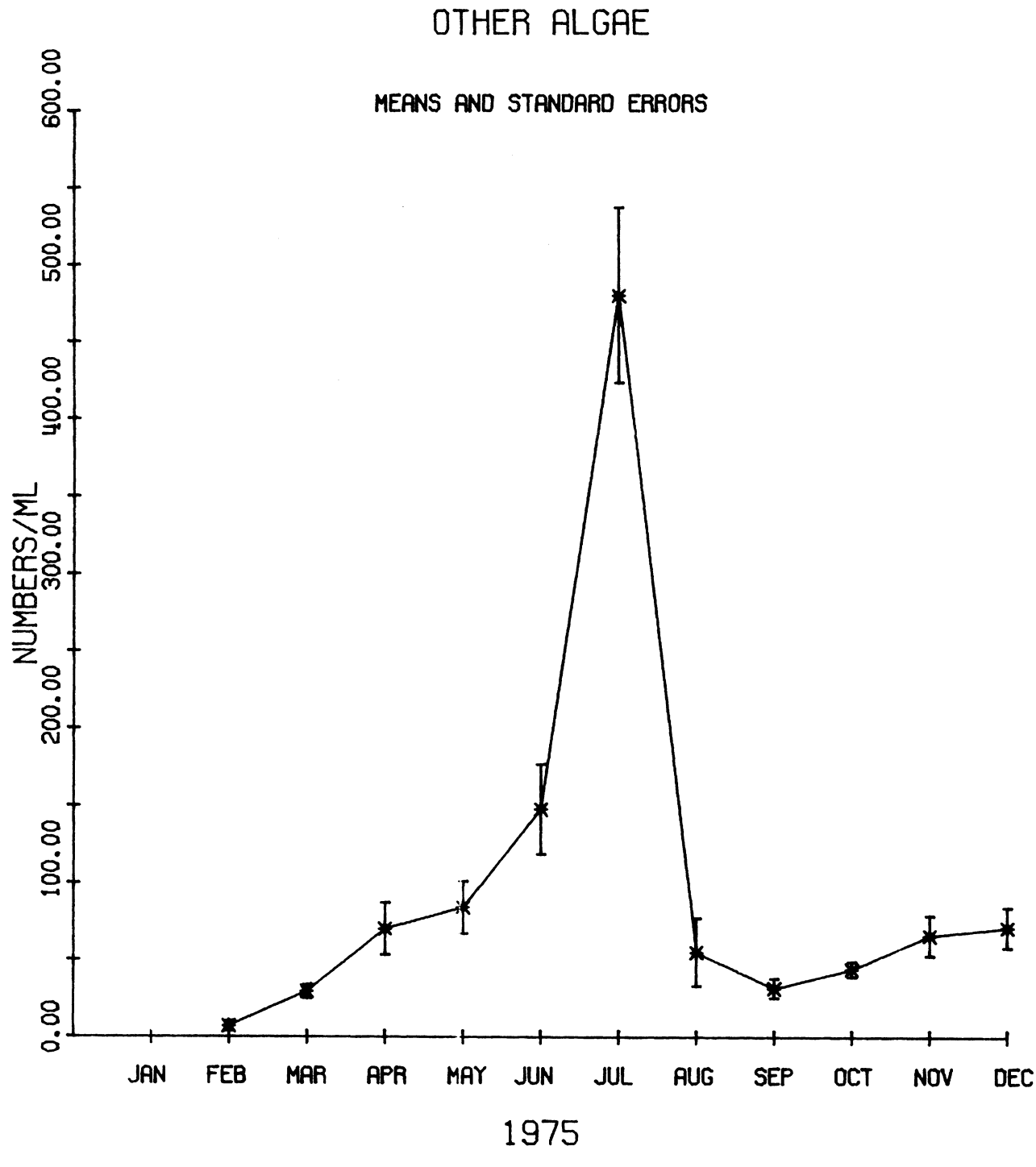

FIG. 9. Variation of other algae numbers during 1975.

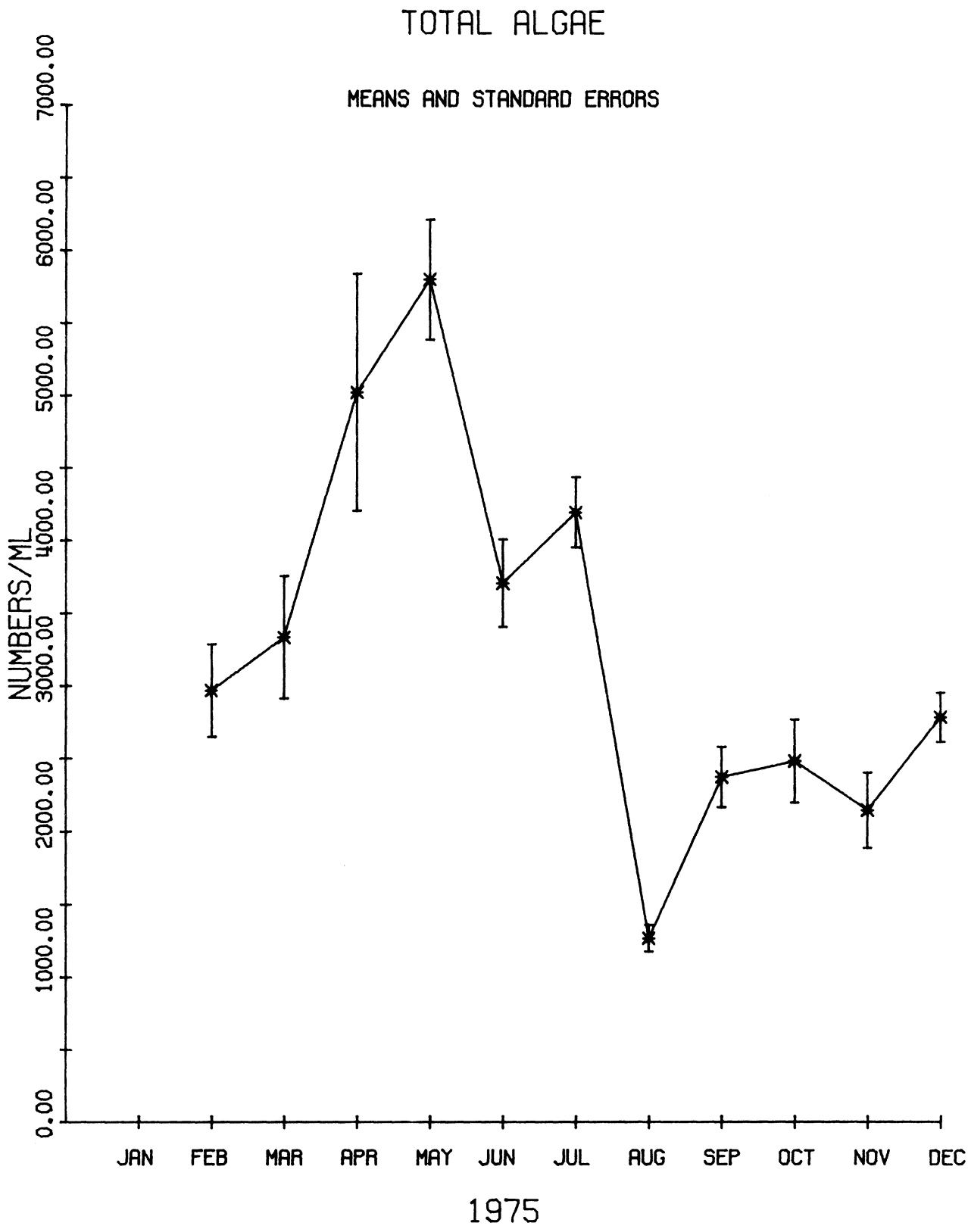

FIG. 10. Variation of total algae numbers during 1975.

Coccoid blue green algae greatly vary from month to month. In general, the months of May, July, September, and October have the highest counts. Filamentous blue green algae have a distinct maximum abundance in June. In addition, May, July, and October have elevated counts compared to the remaining months. Coccoid green algae peak in July and have elevated abundances in May through December compared to the remaining months. Filamentous green algae are relatively numerous during February, March, June, and December. Flagellates have relative low densities in February and March. Centric diatoms reach their maximum in April with a diminished peak in December. During August through November, these diatoms are not very abundant. Pennate diatoms reach their maximum concentration in May. The months of July through December have lower densities of pennates than the remaining months. Other algae reach their maximum abundance in July. Total numbers of all algae reach a peak in April and May and a low in August.

To shed further light on the total numbers and diversity of the phytoplankton passing through the plant, Table 7 has been prepared. It summarizes the total species or groups, individuals per milliliter, and diversity index for each slide counted. In addition, Tables 8 through 18 contain a listing of the dominant forms encountered for each month on each slide. Dominant forms are considered to be those exceeding ten percent of the total population. In a few instances, some forms approaching ten percent have been included.

Figures 11 through 18 are plots of cell densities of the eight dominant species observed versus month of collection. Standard error bars are associated with each mean. Referring to Table 1 of monthly temperatures during the periods of phytoplankton collection, the temperature of maximum abundance and temperature range over which each species exists can be inferred. To obtain the temperature range, those temperatures associated with months when the mean number of cells is less than ten percent of the maximum for a particular species

Table 7. Composition of phytoplankton entrained by D. C. Cook Nuclear Plant.

Date	Time	Station	Species or Groups	Individuals/ml	Div. Index
Feb. 25	2000	Discharge	50	2467.3	4.20
		MTR 1-5	50	2135.9	4.15
		MTR 1-6	56	2496.8	4.54
Feb. 26	0745	Discharge	52	3723.1	4.34
		MTR 1-5	47	2077.0	4.50
		MTR 1-6	52	4367.5	4.39
	1230	Discharge	45	2129.0	4.40
		MTR 1-5	45	4419.1	4.19
		MTR 1-6	63	2898.2	4.45
March 11	2015	Discharge	41	6002.6	3.98
		MTR 1-5	59	4201.8	4.23
		MTR 1-6	50	2688.3	4.42
March 12	0550	Discharge	50	4382.3	4.34
		MTR 1-5	50	2518.9	4.32
		MTR 1-6	51	2544.7	4.28
	1220	Discharge	59	2651.5	4.59
		MTR 1-5	49	2135.9	4.28
		MTR 1-6	56	2890.8	4.23
April 15	2110	Discharge	49	8602.5	4.16
		MTR 1-5	54	3977.2	4.38
April 15	1200	Plume	59	3933.0	4.43
April 16	0530	Discharge	48	4529.6	4.15
		MTR 1-5	46	5302.9	4.38
	1205	Discharge	44	2622.0	4.03
		MTR 1-5	49	5111.4	4.18
May 12	2145	Discharge	54	5987.9	4.30
May 13	1115	Discharge	45	4316.0	4.30
		MTR 1-5	44	5597.5	3.92
May 13	mid-day	Plume	38	5214.5	3.16
May 14	0400	Discharge	46	6555.0	3.50
		MTR 1-5	48	2388.7	2.77
June 10	2140	Discharge A	42	3962.5	3.94
		Discharge B	53	4135.5	4.40
		MTR 1-5 A	56	3966.2	4.60
		MTR 1-5 B	43	3947.7	4.02
June 11	0400	Discharge A	46	3822.5	4.22
		Discharge B	39	4647.4	3.56
		MTR 1-5 A	54	2518.9	4.46
		MTR 1-5 B	55	2209.6	4.15
	1115	Discharge A	50	2161.7	4.29
		Discharge B	44	5340.4	3.90
		MTR 1-5 A	51	4883.1	4.22
		MTR 1-5 B	57	2909.2	4.22
July 23	2155	Discharge A	50	3424.8	3.68
		Discharge B	55	5656.4	4.08
		MTR 1-5 A	48	4109.8	3.94
		MTR 1-5 B	54	5085.6	4.09

Table 7. continued.

Date	Time	Station	Species or Groups	Individuals/ml	Div. Index
July 24	0445	Discharge A	48	5266.1	4.24
		Discharge B	48	2820.9	3.64
		MTR 1-5 A	52	3686.3	4.12
		MTR 1-5 B	53	4054.5	3.97
July 24	1115	Discharge A	58	3852.0	4.05
		Discharge B	52	4827.9	3.76
		MTR 1-5 A	50	4006.7	3.53
		MTR 1-5 B	51	3575.8	4.11
August 11	2115	Discharge A	60	1300.7	3.71
		Discharge B	51	939.6	3.84
		MTR 1-5 A	44	822.6	3.93
		MTR 1-5 B	42	1434.4	3.84
August 12	0455	Discharge A	52	1878.1	4.68
		Discharge B	39	1561.4	3.50
		MTR 1-5 A	46	780.6	3.95
		MTR 1-5 B	46	1375.4	3.69
	1105	Discharge A	32	1511.7	2.84
		Discharge B	49	1182.8	3.47
		MTR 1-5 A	33	1325.9	2.75
		MTR 1-5 B	40	1113.7	2.80
Sept. 8	2037	Discharge A	63	2901.9	4.10
		MTR 1-5 A	51	3371.4	3.41
Sept. 9	0515	Discharge A	39	1977.7	3.62
		Discharge B	38	2269.7	3.13
		MTR 1-5 A	48	1548.5	4.14
		MTR 1-5 B	42	2977.4	3.44
Sept. 9	1115	Discharge A	43	1049.5	3.78
		Discharge B	49	3428.5	2.86
		MTR 1-5 A	43	2445.2	2.85
		MTR 1-5 B	25	2285.0	2.24
Sept. 9	1200	Plume A	40	2462.5	3.47
		Plume B	40	1787.9	3.74
Oct. 22	1950	Discharge A	49	966.7	4.16
		Discharge B	56	1918.6	3.75
		MTR 1-5 A	63	2531.8	4.38
		MTR 1-5 B	48	1981.2	4.20
Oct. 23	0453	Discharge A	61	1708.7	4.53
		Discharge B	64	3914.6	3.79
		MTR 1-5 A	53	1631.4	3.97
		MTR 1-5 B	55	2959.0	3.73
	1115	Discharge A	67	2898.2	4.56
		Discharge B	52	1938.9	4.11
		MTR 1-5 A	42	2981.1	2.94
		MTR 1-5 B	49	4391.5	3.37

Table 7. continued.

Date	Time	Station	Species or Groups	Individuals/ml	Div. Index
Nov. 17	1930	Discharge A	41	1060.7	3.95
		Discharge B	41	1158.2	4.10
		MTR 1-5 A	51	1095.6	4.40
		MTR 1-5 B	43	2113.8	4.11
Nov. 18	0600	Discharge A	52	2931.3	4.04
		Discharge B	48	1729.0	3.20
		MTR 1-5 A	62	3038.1	4.58
		MTR 1-5 B	58	1040.3	4.19
Nov. 18	1300	Discharge A	60	3089.7	4.45
		Discharge B	53	3308.7	3.92
		MTR 1-5 A	52	2393.7	3.95
		MTR 1-5 B	43	2824.5	3.33
Dec. 10	1835	Discharge A	57	3314.3	3.80
		Discharge B	51	2563.1	3.56
		MTR 1-5 A	58	2787.7	4.27
Dec. 11	0735	Discharge A	48	3598.1	4.07
		Discharge B	42	3410.1	4.15
		MTR 1-5 A	43	2964.5	3.06
		MTR 1-5 B	49	2371.6	3.78
Dec. 11	1240	Discharge A	58	2622.0	3.97
		Discharge B	52	2124.9	3.77
		MTR 1-5 A	55	3141.2	3.95
		MTR 1-5 B	46	1778.7	3.80

Table 8. Major taxa observed in February .

Time (EST)	Date	Station	Dominant Forms	Population (%)
2000	Feb 25	Discharge	*Cyclotella stelligera*	11.5
			Fragilaria crotonensis	15.7
			Tabellaria fenestrata v. *intermedia*	19.1
		MTR 1-5	*Cyclotella stelligera*	12.2
			Fragilaria crotonensis	20.7
		MTR 1-6	*Cyclotella stelligera*	11.4
			Fragilaria capucina	11.8
			Tabellaria fenestrata v. *intermedia*	10.9
0745	Feb 26	Discharge	*Gomphosphaeria lacustris*	10.9
			Tabellaria fenestrata intermedia	18.6
			Fragilaria crotonensis	10.0
		MTR 1-5	*Tabellaria fenestrata* v. *intermedia*	16.7
		MTR 1-6	*Cyclotella stelligera*	12.3
			Tabellaria fenestrata v. *intermedia*	15.8
1230	Feb 26	Discharge	*Fragilaria crotonensis*	13.3
			Fragilaria intermedia	9.9
			Stephanodiscus sp.	10.6
		MTR 1-5	*Stephanodiscus* sp.	10.5
			Tabellaria fenestrata v. *intermedia*	19.5
		MTR 1-6	*Gomphosphaeria* sp.	12.7
			Stephanodiscus sp.	13.2
			Tabellaria fenestrata v. *intermedia*	10.2

Table 9. Major taxa observed in March.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2015	March 11	Discharge	*Gomphosphaeria lacustris*	24.5
			Tabellaria fenestrata v. *intermedia*	10.2
		MTR 1-5	Centric Diatom, unknown	10.0
			Gomphosphaeria lacustris	10.5
			Tabellaria fenestrata v. *intermedia*	17.4
		MTR 1-6	Centric Diatom, unknown	10.1
			Stephanodiscus, sp.	10.3
			Tabellaria fenestrata v. *intermedia*	13.3
0550	March 12	Discharge	Centric Diatom, unknown	13.4
			Tabellaria fenestrata v. *intermedia*	13.6
		MTR 1-5	Flagellates	12.6
			Tabellaria fenestrata v. *intermedia*	14.2
		MTR 1-6	Centric Diatom, unknown	9.8
			Cyclotella stelligera	10.0
			Tabellaria fenestrata v. *intermedia*	18.8
1220	March 12	Discharge	Centric Diatom, unknown	10.3
			Cyclotella stelligera	10.3
			Stephanodiscus	11.2
			Tabellaria fenestrata v. *intermedia*	11.0
		MTR 1-5	Centric Diatom, unknown	13.4
			Cyclotella stelligera	10.3
			Stephanodiscus, sp.	13.1
			Tabellaria fenestrata v. *intermedia*	12.4
		MTR 1-6	*Cyclotella stelligera*	10.3
			Fragilaria crotonensis	11.7
			Tabellaria fenestrata v. *intermedia*	14.8

Table 10. Major taxa observed in April.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2110	April 15	Discharge	*Cyclotella stelligera*	14.8
			Flagellates	16.9
			Fragilaria crotonensis	11.4
		MTR 1-5	*Cyclotella stelligera*	13.5
			Flagellates	9.9
			Gomphosphaeria lacustris	11.1
1200	April 15	Plume	Flagellates	21.4
0530	April 16	Discharge	*Cyclotella stelligera*	21.1
			Stephanodiscus minutus	10.6
			Stephanodiscus tenuis	10.2
		MTR 1-5	*Cyclotella stelligera*	16.2
			Flagellates	14.4
1205	April 16	Discharge	*Cyclotella stelligera*	11.9
			Flagellates	25.8
			Stephanodiscus tenuis	9.7
		MTR 1-5	*Anacystis incerta*	14.0
			Flagellates	19.7

Table 11. Major taxa observed in May.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2145	May 12	Discharge	*Anacystis incerta*	13.5
			Fragilaria crotonensis	10.5
			Tabellaria fenestrata v. *intermedia*	18.1
1200	May 13	Plume	Flagellates	21.6
			Fragilaria crotonensis	17.1
			Fragilaria fenestrata v. *intermedia*	32.9
0400	May 14	Discharge	*Anacystis incerta*	13.2
			Flagellates	10.9
			Fragilaria crotonensis	16.2
			Tabellaria fenestrata v. *intermedia*	30.1
		MTR 1-5	*Anacystis incerta*	55.2
1115	May 13	Discharge	Flagellates	12.0
			Tabellaria fenestrata v. *intermedia*	19.1
		MTR 1-5	*Anacystis incerta*	14.5
			Flagellates	11.3
			Fragilaria crotonensis	14.1
			Tabellaria fenestrata v. *intermedia*	21.0

Table 12. Major taxa observed in June.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2140	June 10	Discharge A	Flagellates	16.9
			Tabellaria fenestrata v. *intermedia*	24.4
		Discharge B	Flagellates	18.3
			Tabellaria fenestrata v. *intermedia*	16.2
		MTR 1-5 A	*Fragilaria capucina*	11.7
			Tabellaria fenestrata v. *intermedia*	19.9
		MTR 1-5 B	Flagellates	11.4
			Stephanodiscus tenuis	10.4
			Tabellaria fenestrata v. *intermedia*	26.9
0400	June 11	Discharge A	Flagellates	18.7
			Oscillatoria limnetica	11.8
			Tabellaria fenestrata v. *intermedia*	14.4
		Discharge B	*Anacystis incerta*	14.3
			Flagellates	31.2
			Gomphosphaeria lacustris	12.7
		MTR 1-5 A	Flagellates	14.5
			Oscillatoria limnetica	11.4
			Tabellaria fenestrata v. *intermedia*	14.9
		MTR 1-5 B	Flagellates	19.5
			Tabellaria fenestrata v. *intermedia*	20.7
1115	June 11	Discharge A	*Fragilaria crotonensis*	18.7
			Stephanodiscus tenuis	10.0
			Tabellaria fenestrata v. *intermedia*	11.8
		Discharge B	Flagellates	30.9
			Tabellaria fenestrata v. *intermedia*	12.7
		MTR 1-5 A	*Gomphosphaeria lacustris*	22.6
		MTR 1-5 B	Flagellates	22.4
			Fragilaria crotonensis	11.8
			Tabellaria fenestrata v. *intermedia*	13.7

Table 13. Major taxa observed in July.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2155	July 23	Discharge A	*Anacystis incerta*	11.0
			Cyclotella sp.	13.7
			Cyclotella stelligera	17.7
			Dictyosphaerium pulchellum	21.8
			Gloeocystis sp.	9.9
		Discharge B	*Cyclotella stelligera*	18.9
			Dictyosphaerium pulchellum	13.8
			Gloeocystis sp.	13.5
		MTR 1-5 A	*Cyclotella stelligera*	10.1
			Dictyosphaerium pulchellum	26.8
			Merismopedia tenuissima	12.5
		MTR 1-5 B	*Cyclotella* sp.	13.4
			Cyclotella stelligera	15.1
			Dictyosphaerium pulchellum	14.3
			Gomphosphaeria lacustris	10.4
0445	July 24	Discharge A	*Cyclotella stelligera*	10.9
			Flagellates	17.9
			Green Coccoid, unknown	16.2
		Discharge B	*Cyclotella stelligera*	23.8
			Flagellates	19.3
			Gloeocystis sp.	14.1
		MTR 1-5 A	*Dictyosphaerium pulchellum*	20.4
			Flagellates	11.4
			Gloecystis sp.	13.0
		MTR 1-5 B	*Cyclotella stelligera*	15.1
			Dictyosphaerium pulchellum	10.5
			Flagellates	11.4
			Gloeocystis sp.	21.7
1115	July 24	Discharge A	*Dictyosphaerium pulchellum*	21.6
			Gloeocystis planctonica	12.3
			Gloeocystis sp.	13.8
		Discharge B	*Anacystis incerta*	14.1
			Cyclotella stelligera	17.2
			Dictyosphaerium pulchellum	17.4
			Gloeocystis sp.	16.2
		MTR 1-5 A	*Cyclotella stelligera*	14.2
			Dictyosphaerium pulchellum	30.5
			Gloeocystis sp.	12.4
		MTR 1-5 B	*Dictyosphaerium pulchellum*	21.2
			Gloeocystis sp.	15.2

Table 14. Major taxa observed in August.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2115	Aug 11	Discharge A	*Anacystis incerta*	11.6
			Chromulina parvula	36.1
			Gomphosphaeria lacustris	9.9
		Discharge B	*Anacystis incerta*	11.2
			Chromulina parvula	29.5
			Cyclotella stelligera	11.2
		MTR 1-5 A	*Anacystis incerta*	16.0
			Cyclotella stelligera	10.3
			Gloeocystis sp.	14.7
			Gomphosphaeria lacustris	17.9
		MTR 1-5 B	*Chromulina parvula*	25.9
			Gomphosphaeria lacustris	13.5
0455	Aug 12	Discharge A	*Gloeocystis* sp.	18.2
		Discharge B	*Anacystis incerta*	32.1
			Flagellates	14.3
			Gloeocystis sp.	11.2
		MTR 1-5 A	*Anacystis incerta*	18.8
			Flagellates	12.6
			Chromulina parvula	12.7
			Cyclotella stelligera	10.3
		MTR 1-5 B	*Chromulina parvula*	28.9
			Cyclotella stelligera	11.9
			Flagellates	18.3
1105	Aug 12	Discharge A	*Anacystis incerta*	30.9
			Chromulina parvula	35.3
		Discharge B	*Chromulina parvula*	32.5
			Gloeocystis sp.	12.2
			Synura sp.	12.5
		MTR 1-5 A	*Anacystis incerta*	14.9
			Chromulina parvula	49.6
		MTR 1-5 B	*Anacystis incerta*	19.7
			Chromulina parvula	44.2
			Gloeocystis sp.	11.2

Table 15. Major taxa observed in September.

Time (EST)	Date	Station	Dominant Forms	Population (%)
2037	Sept. 8	Discharge A	*Anacystis incerta*	12.4
			Fragilaria crotonensis	12.4
			Gomphosphaeria lacustris	19.4
		MTR 1-5 A	*Anacystis incerta*	39.6
			Flagellates	10.3
			Fragilaria crotonensis	9.8
0515	Sept. 9	Discharge A	*Anacystis incerta*	25.1
			Anacystis thermalis	15.8
			Flagellates	11.8
		Discharge B	*Anacystis incerta*	44.0
			Ochromonas sp.	10.6
		MTR 1-5 A	*Anacystis incerta*	13.1
			Flagellates	16.8
			Gomphosphaeria lacustris	11.9
		MTR 1-5 B	*Anacystis incerta*	21.3
			Flagellates	16.3
			Gomphosphaeria lacustris	20.7
1115	Sept. 9	Discharge A	*Anacystis incerta*	28.1
			Anacystis thermalis	11.6
			Flagellates	11.0
		Discharge B	*Anacystis incerta*	52.9
		MTR 1-5 A	*Anacystis incerta*	50.4
			Gomphosphaeria lacustris	12.4
		MTR 1-5 B	*Anacystis incerta*	62.4
			Anacystis thermalis	9.7
1200	Sept. 9	Plume A	*Anacystis incerta*	19.8
			Gomphosphaeria lacustris	27.7
		Plume B	*Anacystis thermalis*	14.2
			Flagellates	15.4
			Ochromonas sp.	15.6

Table 16. Major taxa observed in October.

Time (EST)	Date	Station	Dominant Forms	Population (%)
1950	Oct. 22	Discharge A	*Anacystis incerta*	28.6
			Fragilaria crotonensis	10.3
		Discharge B	*Anacystis incerta*	44.6
		MTR 1-5 A	Flagellates	19.0
			Gomphosphaeria lacustris	10.2
			Ochromonas sp.	10.6
		MTR 1-5 B	*Anacystis incerta*	14.9
			Ochromonas sp.	20.1
0453	Oct. 23	Discharge A	*Anacystis incerta*	16.0
			Flagellates	15.8
		Discharge B	*Anacystis incerta*	32.0
			Flagellates	12.0
			Gomphosphaeria lacustris	13.4
		MTR 1-5 A	*Anacystis incerta*	19.2
			Flagellates	17.3
			Gomphosphaeria lacustris	16.9
		MTR 1-5 B	*Anacystis incerta*	31.7
			Gomphosphaeria lacustris	15.6
1115	Oct. 23	Discharge A	*Anacystis incerta*	11.4
			Flagellates	15.2
		Discharge B	*Anacystis incerta*	17.4
			Flagellates	26.2
		MTR 1-5 A	Flagellates	12.7
			Gomphosphaeria lacustris	49.4
			Ochromonas sp.	11.6
		MTR 1-5 B	*Anacystis incerta*	31.7
			Flagellates	12.8
			Gomphosphaeria lacustris	24.1

Table 17. Major taxa observed in November.

Time (EST)	Date	Station	Dominant Forms	Population (%)
1930	Nov. 17	Discharge A	Flagellates	31.8
		Discharge B	*Anacystis incerta*	23.8
			Chrysophycean Flagellate spp.	9.9
			Flagellates	13.5
		MTR 1-5 A	*Chrysophycean* Flagellate spp.	11.4
			Flagellates	9.8
			Fragilaria crotonensis	20.5
		MTR 1-5 B	Flagellates	24.4
			Fragilaria crotonensis	13.2
0600	Nov. 18	Discharge A	*Agmenellum quadruplicatum*	22.5
			Anacystis incerta	12.6
			Gomphosphaeria lacustris	12.6
		Discharge B	*Anacystis incerta*	47.9
			Fragilaria crotonensis	13.3
		MTR 1-5 A	*Anacystis incerta*	12.1
			Centric Diatom, unknown	10.3
			Fragilaria crotonensis	9.9
			Gomphosphaeria lacustris	10.9
		MTR 1-5 B	Centric Diatom, unknown	10.8
			Flagellates	31.9
1300	Nov. 18	Discharge A	Flagellates	14.8
			Fragilaria crotonensis	12.6
			Gomphosphaeria lacustris	11.9
			Stephanodiscus sp.	10.8
		Discharge B	*Anacystis incerta*	15.6
			Gomphosphaeria lacustris	26.7
		MTR 1-5 A	*Anacystis incerta*	32.3
			Fragilaria crotonensis	10.9
		MTR 1-5 B	*Anacystis incerta*	26.1
			Flagellates	16.0
			Sphaerocystis schroeteri	25.8

Table 18. Major taxa observed in December.

Time (EST)	Date	Station	Dominant Forms	Population (%)
1835	Dec. 10	Discharge A	Centric Diatom, unknown	14.3
			Cyclotella stelligera	35.7
		Discharge B	Centric Diatom, unknown	21.8
			Cyclotella stelligera	35.3
		MTR 1-5 A	Centric Diatom, unknown	24.0
			Ochromonas sp.	11.0
			Sphaerocystis schroeteri	10.6
0735	Dec. 11	Discharge A	Centric Diatom, unknown	12.6
			Gomphosphaeria lacustris	15.4
			Stephanodiscus minutus	10.8
			Stephanodiscus sp.	17.0
		Discharge B	Centric Diatom, unknown	16.8
			Cyclotella comensis	9.9
			Cyclotella sp.	10.8
			Cyclotella stelligera	13.2
		MTR 1-5 A	*Anacystis incerta*	34.8
			Cyclotella stelligera	30.6
		MTR 1-5 B	*Cyclotella stelligera*	30.9
			Ochromonas sp.	13.5
1240	Dec. 11	Discharge A	Centric Diatom, unknown	16.4
			Cyclotella stelligera	26.3
		Discharge B	Centric Diatom, unknown	23.2
			Cyclotella stelligera	27.9
		MTR 1-5 A	Centric Diatom, unknown	16.5
			Cyclotella stelligera	25.4
			Ochromonas sp.	13.2
		MTR 1-5 B	Centric Diatom, unknown	23.6
			Cyclotella stelligera	24.4

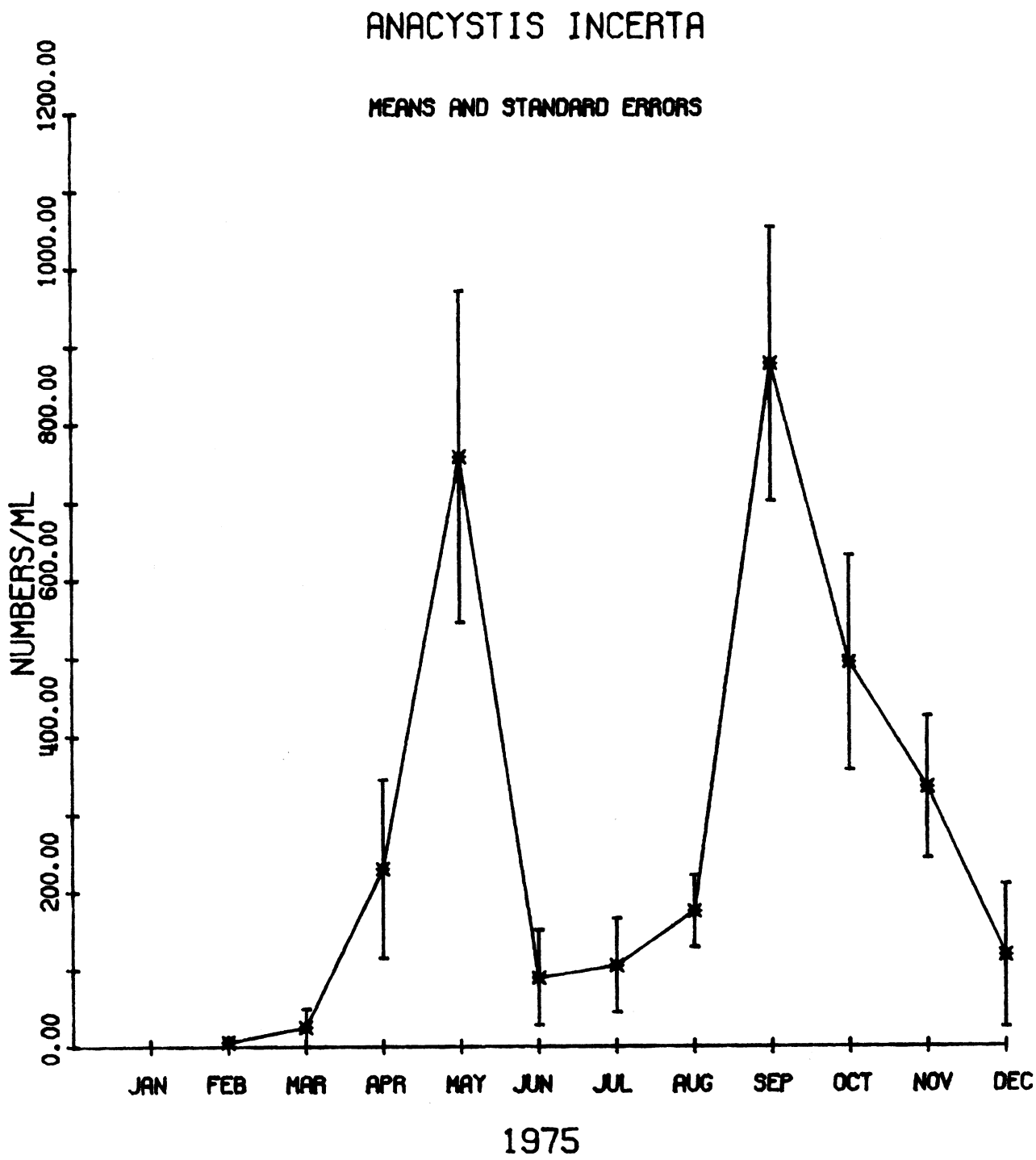

FIG. 11. Variation of *Anacystis incerta* numbers during 1975.

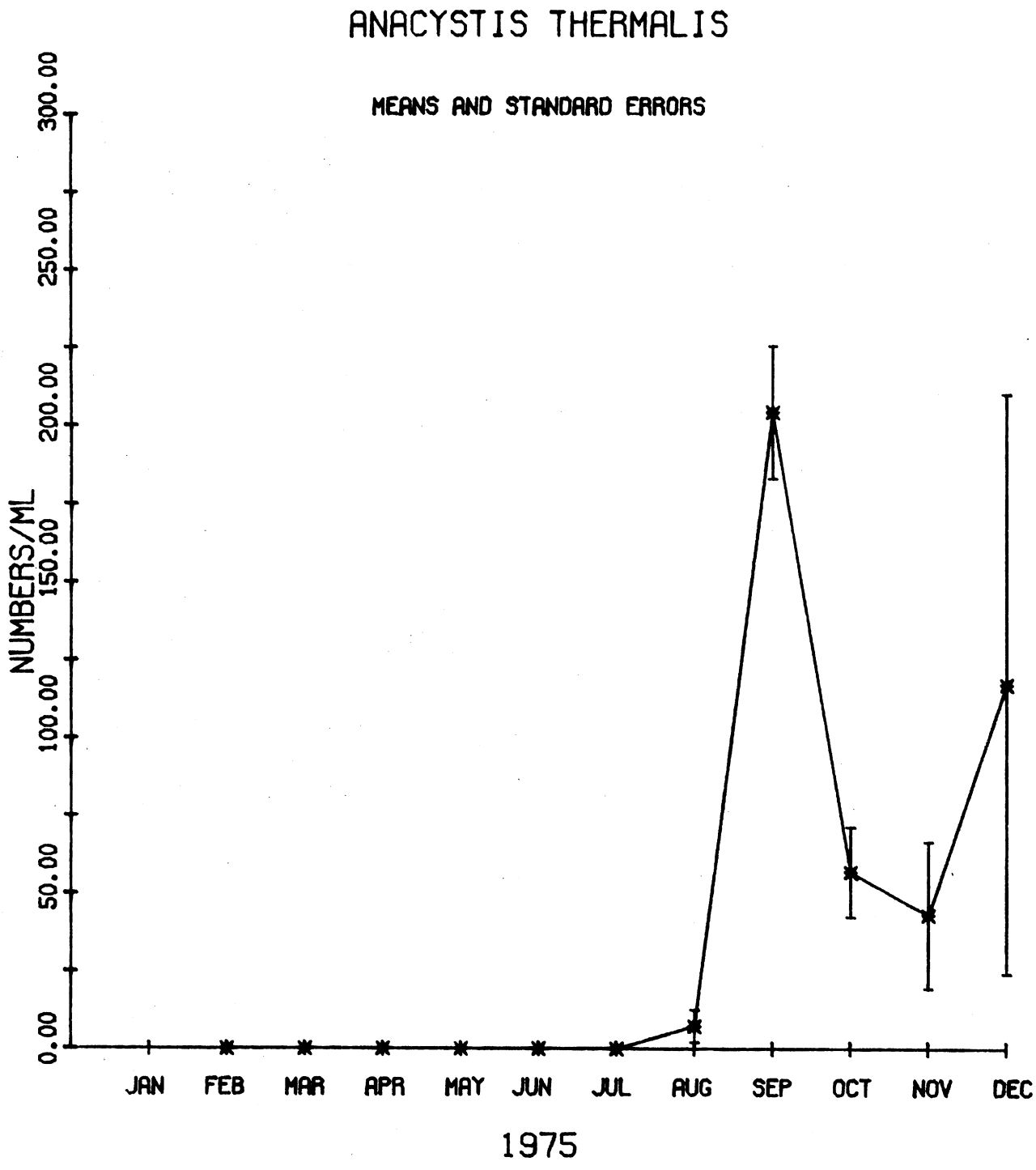

FIG. 12. Variation of *Anacystis thermalis* numbers during 1975.

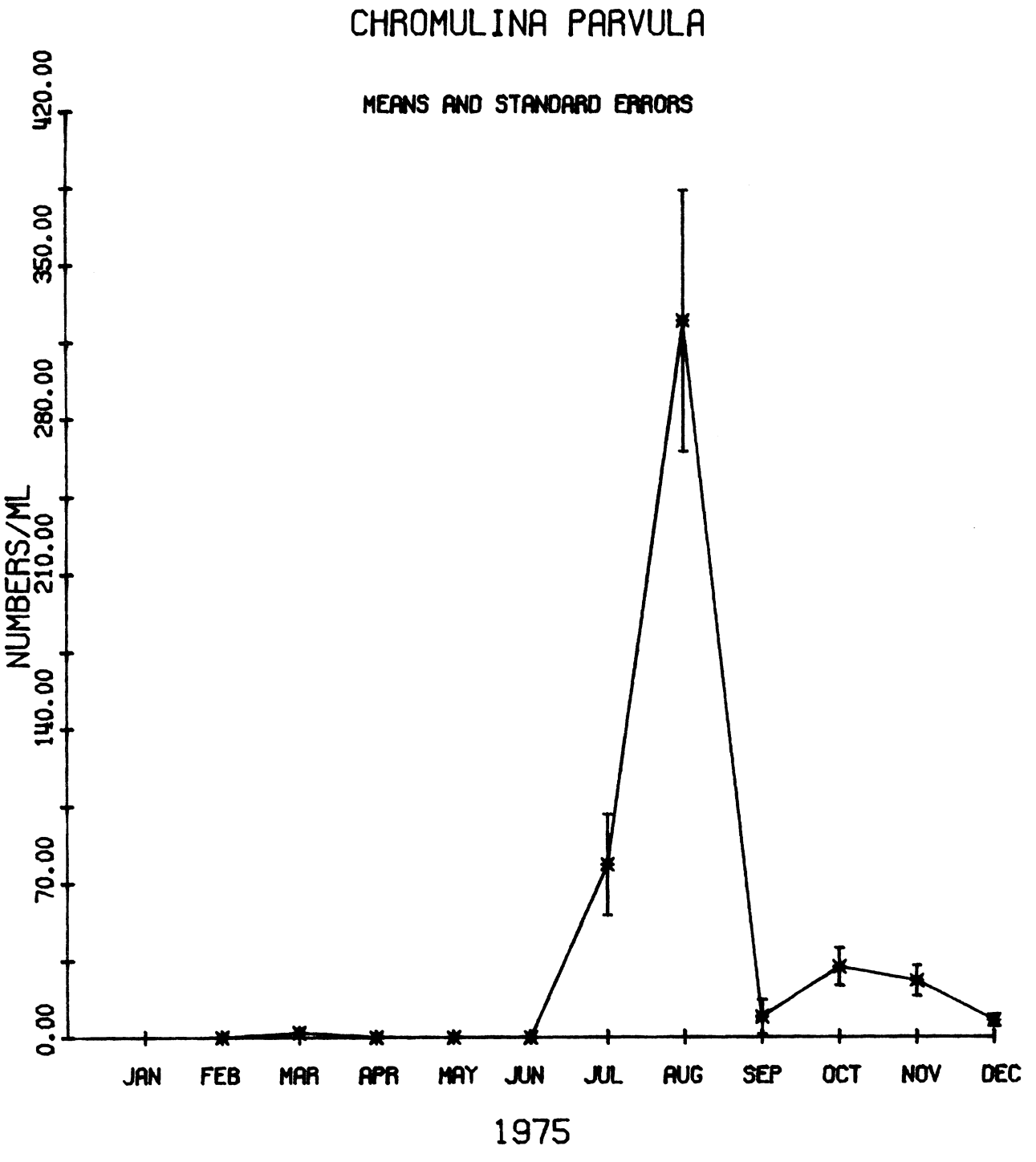

FIG. 13. Variation of *Chromulina parvula* numbers during 1975.

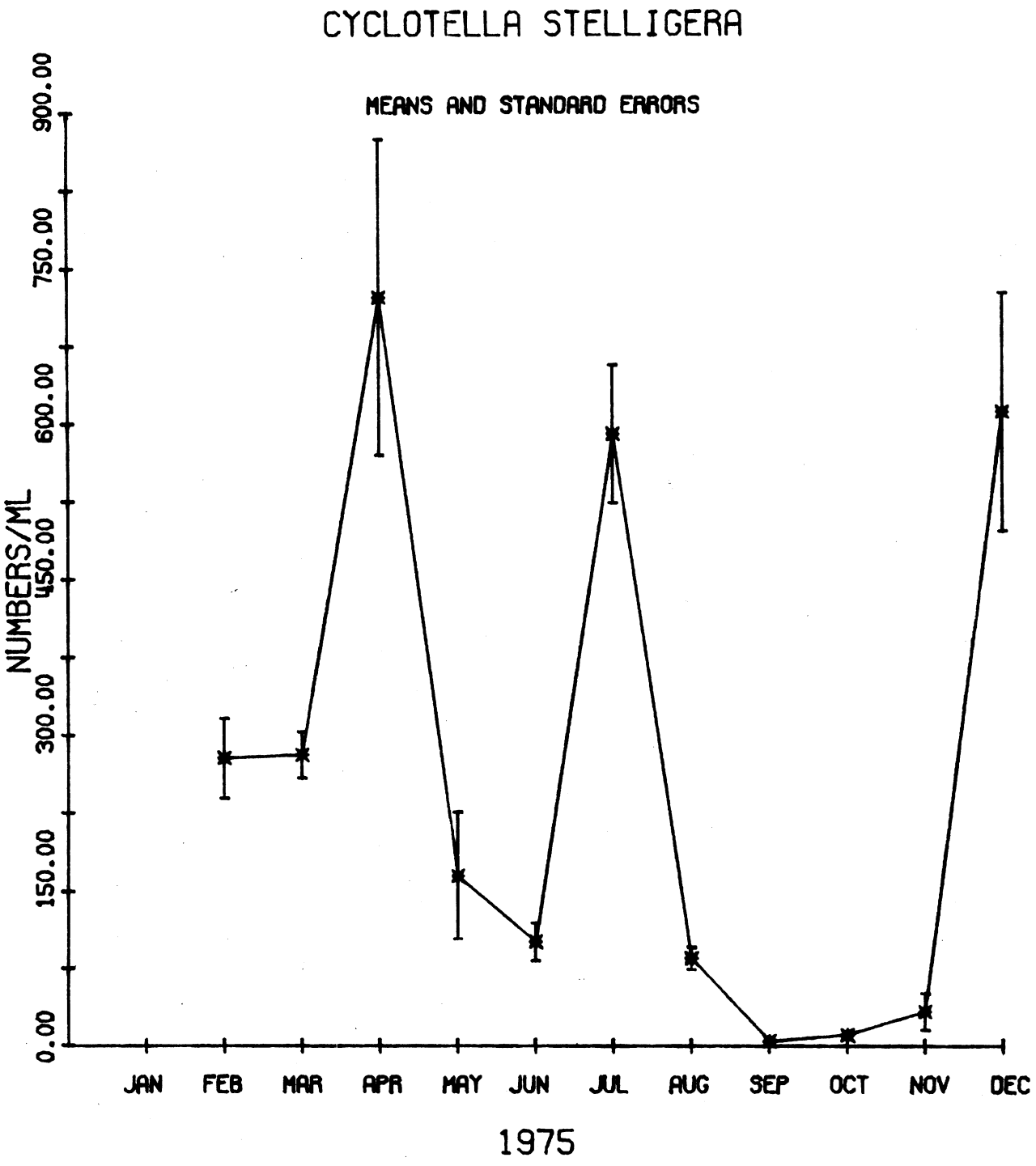

FIG. 14. Variation of *Cyclotella stelligera* numbers during 1975.

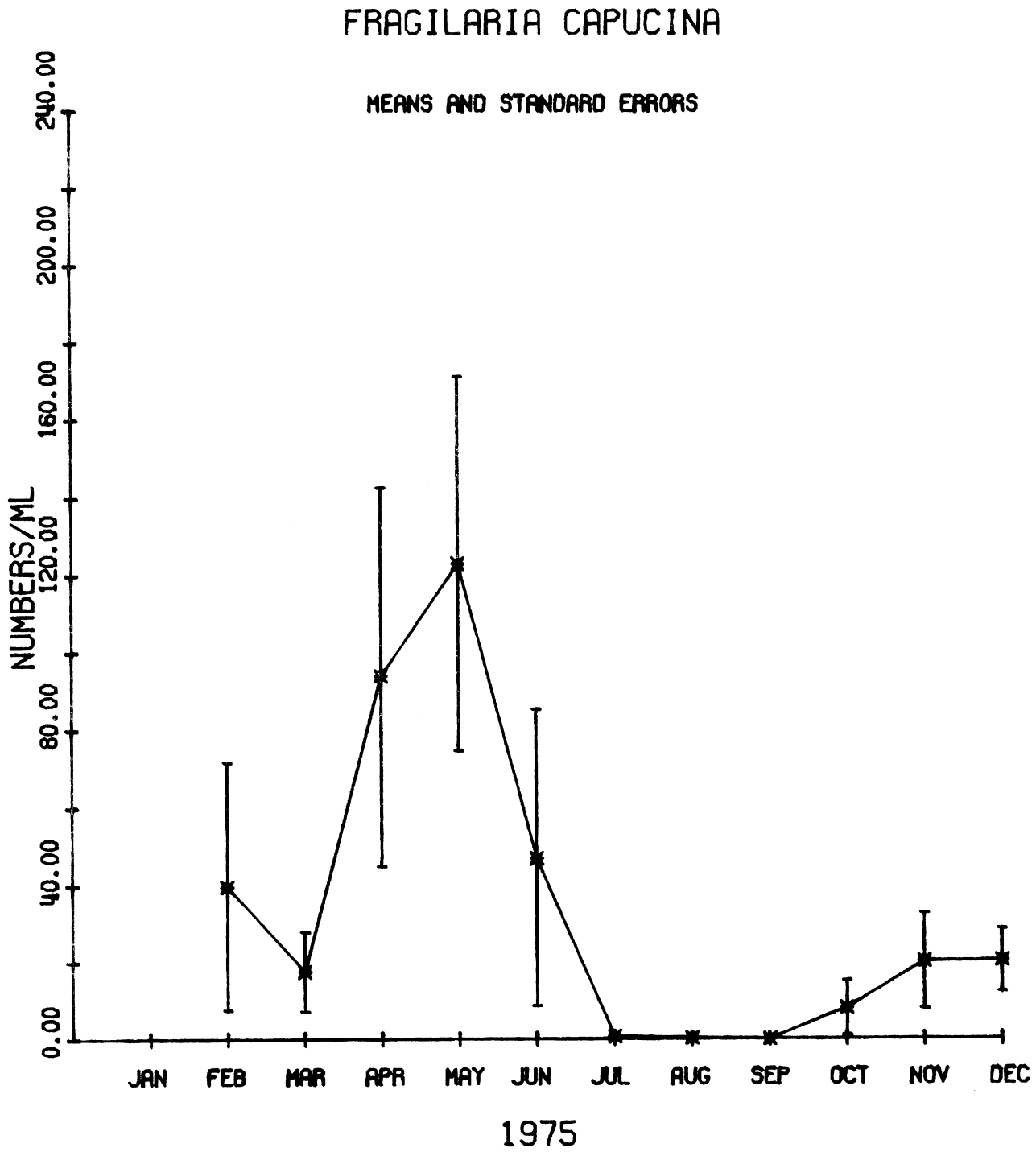

FIG. 15. Variation of *Fragilaria capucina* numbers during 1975.

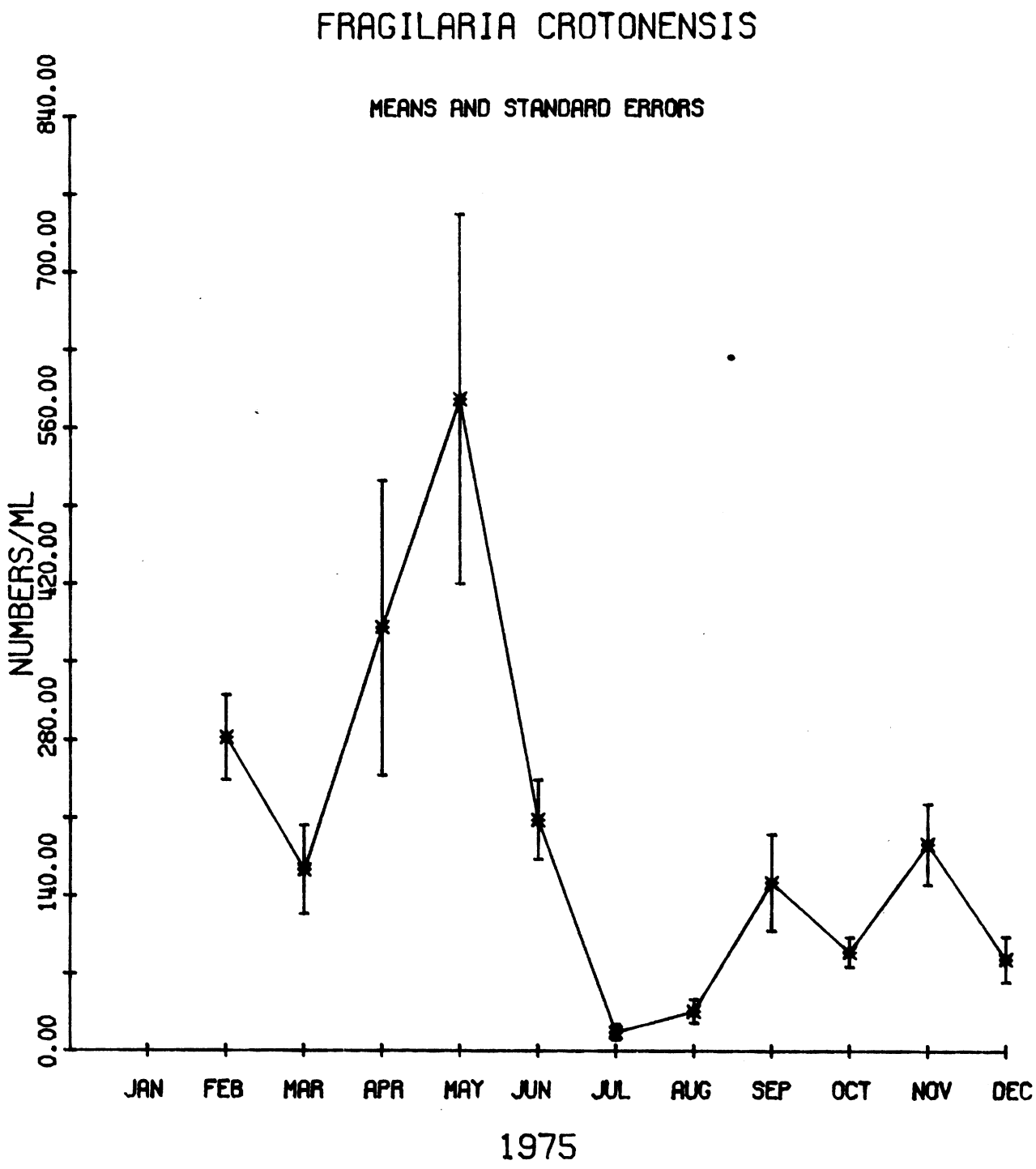

FIG. 16. Variation of *Fragilaria crotonensis* numbers during 1975.

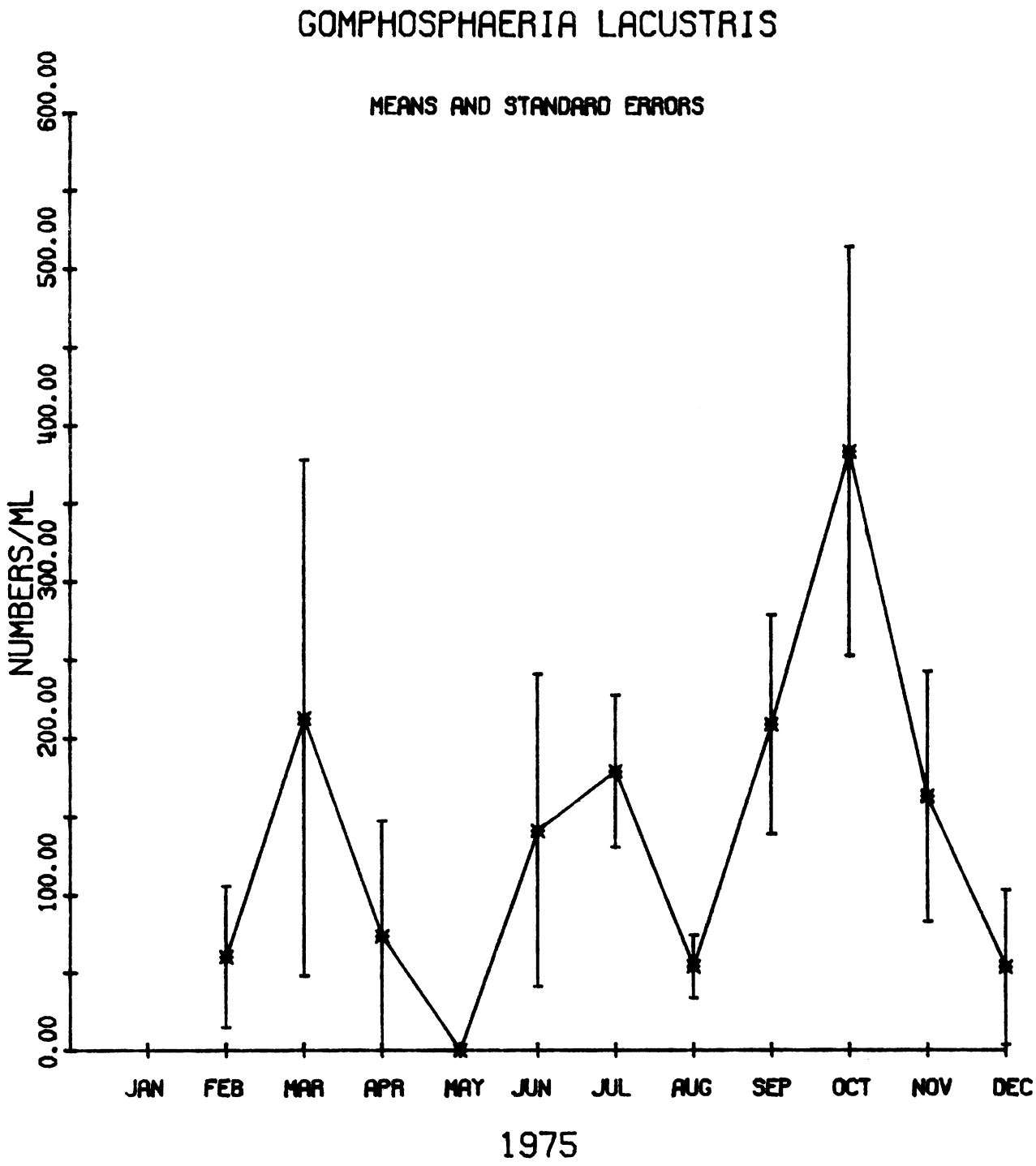

FIG. 17. Variation of *Gomphosphaeria lacustris* numbers during 1975.

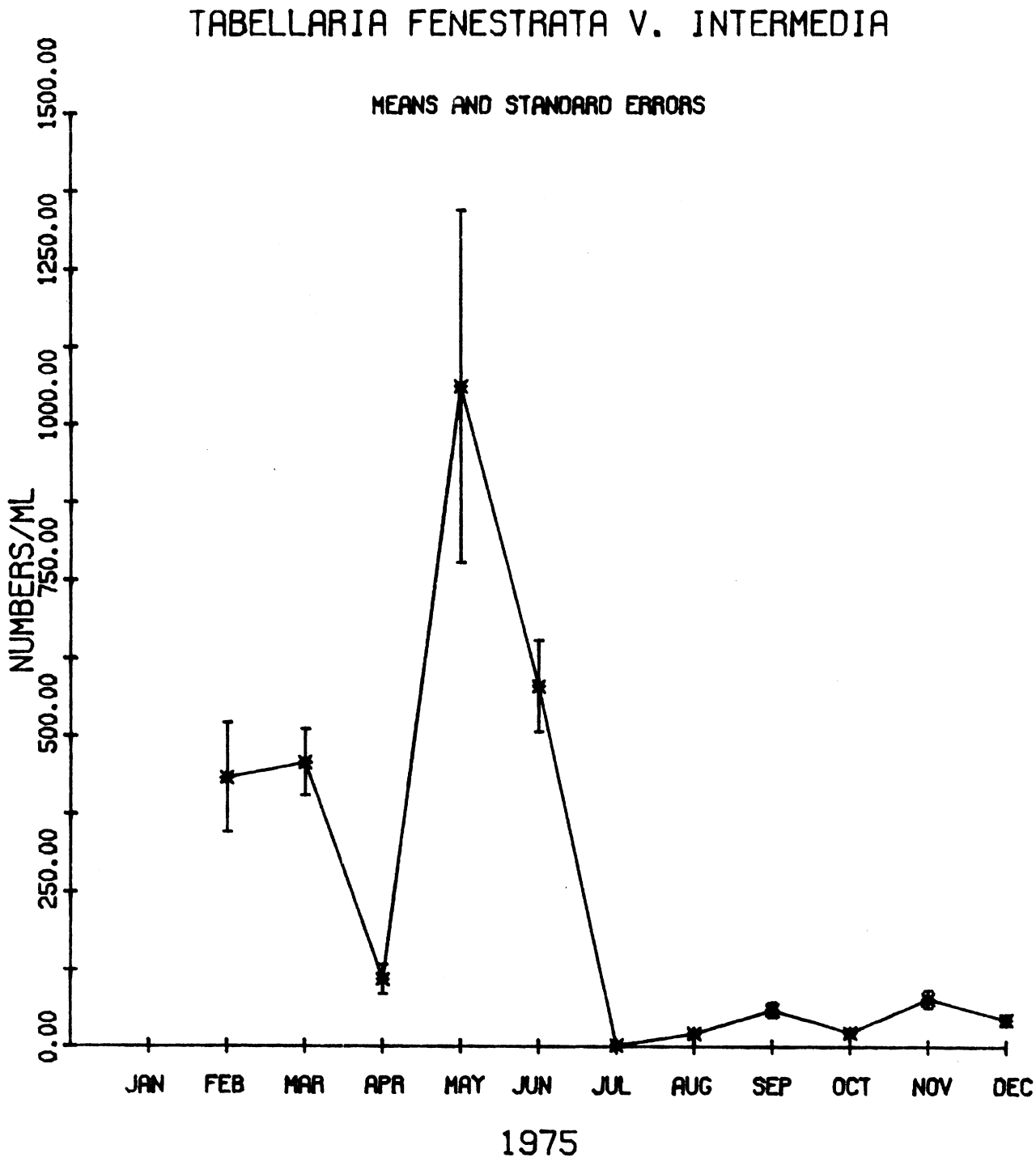

FIG. 18. Variation of *Tabellaria fenestrata v. intermedia* numbers during 1975.

during the year are excluded. Remaining months are used to obtain the range. Table 19 lists these data for each species.

Of greatest interest is Figure 18. The counts of the diatom *Tabellaria fenestra v. intermedia* are elevated in February and March with a significant decrease in April and finally a peak in May. During February and March temperatures in the vicinity of the intake were elevated due to deicing operations. This apparently stimulated reproduction of this species. In April, the plant was not deicing and temperatures in the vicinity of the intake decreased resulting in lower numbers. In May, the normal spring bloom took place. Thus while in a deicing mode the plant is capable of triggering growth of at least one species. Future efforts will be directed toward determining what other species undergo these same changes.

If the major groups are combined into the 4 categories of diatoms, blue-green algae, green algae, and desmids, the relative abundance of each can be calculated (Table 20). Diatoms are the pennate and centric diatoms; blue-green algae are the coccoid blue-green and filamentous blue-green algae; and green algae are the flagellates, coccoid green algae, filamentous green algae, and other algae categories. Diatoms are dominant in February, March, April, May, June, November, and December. Green algae are dominant in July and August. Blue-green algae are dominant in September and October. Desmids are a very minor fraction of the total phytoplankton population throughout the year. Thus, except during the warm summer months, the diatoms are dominant.

Diurnal Variations

Diurnal variations of the major groups coccoid blue-green algae, filamentous blue-green algae, coccoid green algae, filamentous green algae, flagellated algae, centric diatoms, pennate diatoms, desmids, other algae, and total algae were investigated using one-way analysis of variance. Samples collected after evening twilight, before morning twilight, and at noon within a 24 hour period

Table 19. Temperature regimes for major taxa identified in 1975.

Form	Temperature Range °C	Temperature of Max. Abundance °C
Chromulina parvula	22-24	22
Anacystis incerta	4-24	7, 20
Fragilaria capucina	4-11	7 (?)
Anacystis thermalis	6-20	20
Fragilaria crotonensis	4-20	7
Cyclotella stelligera	4-24	4, 24
Gomphosphaeria lacustris	4-24	14
Tabellaria fenestrata v. *intermedia*	4-17	7

Table 20. Relative abundance of green algae, blue-green algae, diatoms, and desmids for 1975.

Month	Diatoms (%)	Green Algae (%)	Blue-green Algae (%)	Desmides (%)
February	90.2	5.2	4.6	0.0
March	78.8	11.7	9.5	0.0
April	73.8	19.4	6.8	0.0
May	74.7	11.3	14.0	0.0
June	54.9	30.2	14.8	0.1
July	23.9	48.6	27.4	0.1
August	17.1	59.6	23.3	0.0
September	14.5	32.5	53.0	0.0
October	23.4	34.6	42.0	0.0
November	42.1	28.9	28.9	0.0
December	72.9	20.2	6.8	0.0

for each month yielded the results presented in Tables 21 through 30. No diurnal variation was expected because the water column in the vicinity of the intakes is well-mixed throughout the year. Only during periods of an upwelling would what appear to be diurnal effects appear. This is what, in fact, is illustrated by the data. On only 9 out of 110 occasions did a significant diurnal effect appear. This variation occurred during the months of June (1), July (3), August (2), September (2), and November (1). The June diurnal variation was expected since the samples were collected during an upwelling. In August, an upwelling occurred just before our sampling began. An upwelling took place one week before our September sampling and two days before our October sampling. These results illustrate that no significant consistent diurnal variation exists.

Comparison of Intake and Discharge Phytoplankton Densities

For each 24 hour sampling period, a comparison between intake and discharge is made to establish whether or not the phytoplankton population is the same at each location. Table 31 is a compilation of means and associated standard errors for the intake and discharge samples.

Though not statistically significant in most instances, the mean numbers of flagellates are most often highest in the intake and the mean number of filamentous green algae, centric diatoms, pennate diatoms and other algae are most often highest in the discharge. These deviations from equal abundance in the discharge and intake cannot be explained at present.

Diversity and Redundancy

The presentation of diversity and redundancy is done in an attempt to characterize phytoplankton populations for each month. Diversity is calculated using the formula presented by Wilhm and Dorris (1968):

Table 21. Test of diurnal variation of coccoid blue-green algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	45.433	78.693		
"	Morning	3	155.87	260.50		
"	Noon	3	125.23	210.53	0.24711	0.7886
March	Evening	3	713.20	878.13		
"	Morning	3	39.267	68.012		
"	Noon	3	17.200	23.674	1.8145	0.2419
April	Evening	2	300.15	424.48		
"	Morning	2	217.30	265.59		
"	Noon	2	419.80	421.86	0.14506	0.8707
May	Evening	1	824.90	--		
"	Morning	2	1106.2	304.06		
"	Noon	2	419.80	572.90	1.1273	0.4701
June	Evening	4	14.750	17.032		
"	Morning	4	313.02	626.05		
"	Noon	4	377.47	754.95	0.46705	0.6412
July	Evening	4	1362.5	348.23		
"	Morning	4	504.55	448.04		
"	Noon	4	1296.0	362.83	6.0270	0.0218
August	Evening	4	298.15	103.14		
"	Morning	4	223.30	254.11		
"	Noon	4	335.62	201.31	0.33912	0.7211
Sept.	Evening	4	1120.0	514.60		
"	Morning	4	1036.5	434.41		
"	Noon	4	1515.8	788.76	0.73156	0.5077
Oct.	Evening	4	472.75	326.32		
"	Morning	4	1083.1	685.49		
"	Noon	4	1279.7	962.14	1.4145	0.2923
Nov.	Evening	4	94.850	144.80		
"	Morning	4	764.15	593.55		
"	Noon	4	939.97	550.50	3.5283	0.0739
Dec.	Evening	3	2.4667	4.2724		
"	Morning	4	461.25	490.44		
"	Noon	4	20.250	23.577	2.8361	0.1172

Table 22. Test of diurnal variation of filamentous blue-green algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	34.367	41.049		
"	Morning	3	22.067	9.7326		
"	Noon	3	28.233	20.983	0.15333	0.8611
March	Evening	3	85.933	92.089		
"	Morning	3	62.600	13.243		
"	Noon	3	30.667	13.951	0.78278	0.4988
April	Evening	2	20.250	2.6163		
"	Morning	2	33.150	26.092		
"	Noon	2	29.450	5.1619	0.37063	0.7180
May	Evening	1	14.700	--		
"	Morning	2	110.65	114.34		
"	Noon	2	58.950	10.394	0.50101	0.6662
June	Evening	4	375.65	81.803		
"	Morning	4	350.30	131.97		
"	Noon	4	216.35	141.91	1.9871	0.1929
July	Evening	4	49.725	44.655		
"	Morning	4	55.250	40.883		
"	Noon	4	180.45	101.85	4.6720	0.0406
August	Evening	4	5.5500	2.7062		
"	Morning	4	13.550	13.756		
"	Noon	4	7.6000	8.1650	0.78725	0.4841
Sept.	Evening	4	23.950	33.021		
"	Morning	4	27.150	46.103		
"	Noon	4	0.90000	1.0392	0.76507	0.4933
October	Evening	4	98.050	135.13		
"	Morning	4	99.875	86.198		
"	Noon	4	98.500	158.46	0.21354×10^{-3}	0.9998
Nov.	Evening	4	0.0	0.0		
"	Morning	4	1.3750	1.7671		
"	Noon	4	63.525	101.86	1.5225	0.2694
Dec.	Evening	3	13.533	13.951		
"	Morning	4	25.800	41.879		
"	Noon	4	6.4500	6.2751	0.52939	0.6082

Table 23. Test of diurnal variation of coccoid green algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	27.767	29.217		
"	Morning	3	42.967	38.343		
"	Noon	3	49.100	66.824	0.19396	0.8287
March	Evening	3	103.10	127.78		
"	Morning	3	24.533	9.2652		
"	Noon	3	38.067	14.838	0.95460	0.4366
April	Evening	2	49.700	36.223		
"	Morning	2	47.850	46.881		
"	Noon	2	42.350	13.081	0.67916×10^{-1}	0.9357
May	Evening	1	36.800	--		
"	Morning	2	22.150	4.3134		
"	Noon	2	77.350	67.670	0.62896	0.6139
June	Evening	4	158.37	61.468		
"	Morning	4	74.575	24.485		
"	Noon	4	190.57	98.936	3.0376	0.0982
July	Evening	4	782.55	429.99		
"	Morning	4	1126.0	441.37		
"	Noon	4	1090.0	166.72	1.0493	0.3894
August	Evening	4	141.82	37.352		
"	Morning	4	285.62	203.46		
"	Noon	4	163.00	42.987	1.6202	0.2506
Sept.	Evening	4	266.55	27.950		
"	Morning	4	117.85	40.907		
"	Noon	4	142.22	79.063	8.7674	0.0077
Oct.	Evening	4	116.92	38.361		
"	Morning	4	98.525	34.617		
"	Noon	4	132.55	88.980	0.32877	0.7281
Nov.	Evening	4	62.650	60.544		
"	Morning	4	80.575	83.402		
"	Noon	4	270.67	388.03	0.98801	0.4093
Dec.	Evening	3	208.67	275.49		
"	Morning	4	112.32	123.87		
"	Noon	4	33.125	16.732	1.0644	0.3892

Table 24. Test of diurnal variation of filamentous green algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	34.367	50.300		
"	Morning	3	12.300	15.348		
"	Noon	3	7.3667	3.6501	0.66946	0.5465
March	Evening	3	38.033	20.278		
"	Morning	3	66.267	44.807		
"	Noon	3	0.	0.	4.1145	0.0750
April	Evening	2	0.	0.		
"	Morning	2	0.	0.		
"	Noon	2	0.	0.	--	--
May	Evening	1	0.	--		
"	Morning	2	3.3000	4.6669		
"	Noon	2	3.7000	5.2326	0.20260	0.8315
June	Evening	4	68.125	121.96		
"	Morning	4	8.3000	12.177		
"	Noon	4	11.975	23.950	0.86497	0.4533
July	Evening	4	0.	0.		
"	Morning	4	0.92500	1.8500		
"	Noon	4	0.	0.	1.0000	0.4053
August	Evening	4	2.3000	3.5043		
"	Morning	4	0.	0.		
"	Noon	4	0.22500	0.45000	1.5456	0.2648
Sept.	Evening	4	0.45000	0.90000		
"	Morning	4	0.	0.		
"	Noon	4	0.	0.	1.0000	0.4053
Oct.	Evening	4	2.7500	4.3829		
"	Norning	4	1.8500	3.7000		
"	Noon	4	3.6750	4.5043	0.18787	0.8319
Nov.	Evening	4	0.	0.		
"	Morning	4	0.92500	1.8500		
"	Noon	4	3.6750	7.3500	0.76330	0.4941
Dec.	Evening	3	31.933	27.901		
"	Morning	4	14.725	29.450		
"	Noon	4	0.92500	1.8500	1.5821	0.2637

Table 25. Test of diurnal variation of flagellated algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	78.567	28.628		
"	Morning	3	144.83	85.101		
"	Noon	3	49.100	16.632	2.5948	0.1542
March	Evening	3	438.20	189.68		
"	Morning	3	229.57	111.01		
"	Noon	3	148.53	14.854	4.1426	0.0741
April	Evening	2	1040.3	820.24		
"	Morning	2	622.35	401.00		
"	Noon	2	907.75	262.97	0.30319	0.7587
May	Evening	1	360.90	--		
"	Morning	2	509.60	404.18		
"	Noon	2	626.05	93.692	0.27777	0.7826
June	Evening	4	634.32	237.17		
"	Morning	4	845.15	517.12		
"	Noon	4	928.02	763.32	0.30359	0.7454
July	Evening	4	546.90	241.68		
"	Morning	4	847.90	327.81		
"	Noon	4	289.10	138.75	5.0705	0.0335
August	Evening	4	402.70	207.42		
"	Morning	4	457.37	217.70		
"	Noon	4	651.32	74.827	2.1334	0.1744
Sept.	Evening	4	718.72	140.60		
"	Morning	4	719.07	249.00		
"	Noon	4	323.95	73.784	7.1543	0.0138
Oct.	Evening	4	545.02	454.52		
"	Morning	4	673.47	181.45		
"	Noon	4	870.02	98.912	1.2897	0.3217
Nov.	Evening	4	484.27	159.74		
"	Morning	4	290.95	154.77		
"	Noon	4	475.05	192.83	1.6468	0.2458
Dec.	Evening	3	351.10	136.67		
"	Morning	4	341.55	228.00		
"	Noon	4	407.82	252.41	0.10403	0.9024

Table 26. Test of diurnal variation of centric diatoms.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	768.43	17.032		
"	Morning	3	1163.7	568.65		
"	Noon	3	1174.7	352.41	1.0766	0.3985
March	Evening	3	1253.3	20.263		
"	Morning	3	1335.6	646.74		
"	Noon	3	1271.7	137.83	0.38323×10^{-1}	0.9626
April	Evening	2	3183.6	1611.9		
"	Morning	2	2769.3	541.64		
"	Noon	2	1692.1	460.96	1.1457	0.4269
May	Evening	1	1775.0	--		
"	Morning	2	552.50	478.99		
"	Noon	2	1201.3	238.37	3.7248	0.2116
June	Evening	4	930.75	188.28		
"	Morning	4	642.60	172.21		
"	Noon	4	876.60	232.92	2.3578	0.1502
July	Evening	4	1217.1	491.66		
"	Morning	4	767.82	119.38		
"	Noon	4	756.77	270.93	2.5127	0.1358
August	Evening	4	126.87	11.638		
"	Morning	4	207.85	102.98		
"	Noon	4	62.825	18.609	5.7172	0.0250
Sept.	Evening	4	84.700	33.212		
"	Morning	4	52.025	8.7857		
"	Noon	4	70.900	33.293	1.4108	0.2931
October	Evening	4	288.60	84.883		
"	Morning	4	288.15	82.625		
"	Noon	4	281.72	75.641	0.89856×10^{-2}	0.9911
Nov.	Evening	4	259.62	116.31		
"	Morning	4	467.67	270.34		
"	Noon	4	484.25	234.26	1.3290	0.3121
Dec.	Evening	3	1826.6	566.08		
"	Morning	4	1660.9	560.28		
"	Noon	4	1646.1	304.42	0.14138	0.8703

Table 27. Test of diurnal variation of pennate diatoms.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	1368.7	140.95		
"	Morning	3	1840.1	622.53		
"	Noon	3	1710.1	891.14	0.44404	0.6609
March	Evening	3	1621.6	469.93		
"	Morning	3	1369.9	450.37		
"	Noon	3	1027.5	284.73	1.5856	0.2800
April	Evening	2	1653.5	1203.1		
"	Morning	2	1123.1	286.45		
"	Noon	2	697.85	596.30	0.72966	0.5518
May	Evening	1	2931.3	--		
"	Morning	2	2080.8	2192.4		
"	Noon	2	2511.5	531.25	0.99891×10^{-1}	0.9092
June	Evening	4	1596.4	212.66		
"	Morning	4	983.25	244.44		
"	Noon	4	1079.9	249.12	7.8072	0.0108
July	Evening	4	60.775	24.513		
"	Morning	4	112.30	58.409		
"	Noon	4	99.425	35.340	1.6400	0.2470
August	Evening	4	103.85	39.352		
"	Morning	4	106.32	68.559		
"	Noon	4	44.200	53.504	1.6270	0.2494
Sept.	Evening	4	384.85	254.14		
"	Morning	4	203.02	66.857		
"	Noon	4	221.85	163.11	1.2541	0.3308
Oct.	Evening	4	283.55	82.817		
"	Morning	4	265.15	127.06		
"	Noon	4	336.95	161.24	0.34062	0.7201
Nov.	Evening	4	409.70	274.98		
"	Morning	4	509.60	284.99		
"	Noon	4	584.12	255.40	0.41392	0.6730
Dec.	Evening	3	417.37	161.05		
"	Morning	4	381.15	155.96		
"	Noon	4	222.77	32.559	2.4752	0.1456

Table 28. Test of diurnal variation of desmids.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	0.	0.		
"	Morning	3	1.2333	2.1362		
"	Noon	3	1.2333	2.1362	0.50000	0.6297
March	Evening	3	1.2333	2.1362		
"	Morning	3	0.	0.		
"	Noon	3	1.2333	2.1362	0.50000	0.6297
April	Evening	2	0.	0.		
"	Morning	2	3.7000	5.2326		
"	Noon	2	0.	0.	1.0000	0.4648
May	Evening	1	0.	--		
"	Morning	2	3.7000	5.2326		
"	Noon	2	0.	0.	0.60000	0.6250
June	Evening	4	0.	0.		
"	Morning	4	4.6250	3.5425		
"	Noon	4	2.7750	3.5425	2.5909	0.1292
July	Evening	4	1.8500	2.1362		
"	Morning	4	4.6000	6.9556		
"	Noon	4	0.	0.	1.2143	0.3413
August	Evening	4	1.3500	0.90000		
"	Morning	4	0.	0.		
"	Noon	4	0.	0.	9.0000	0.0071
Sept.	Evening	4	0.92500	1.8500		
"	Morning	4	0.	0.		
"	Noon	4	0.	0.	1.0000	0.4053
Oct.	Evening	4	1.8250	1.5108		
"	Morning	4	0.	0.		
"	Noon	4	0.45000	0.90000	3.5077	0.0748
Nov.	Evening	4	0.45000	0.90000		
"	Morning	4	0.	0.		
"	Noon	4	0.92500	1.8500	0.60662	0.5661
Dec.	Evening	3	0.	0.		
"	Morning	4	0.	0.		
"	Noon	4	0.	0.	--	--

Table 29. Test of diurnal variation of other algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	11.067	13.285		
"	Morning	3	6.1333	10.623		
"	Noon	3	3.6667	6.3509	0.38757	0.6945
March	Evening	3	42.967	7.7022		
"	Morning	3	20.867	5.6518		
"	Noon	3	24.533	13.951	4.4159	0.0662
April	Evening	2	33.150	5.1619		
"	Morning	2	99.400	57.276		
"	Noon	2	77.300	26.022	1.7134	0.3189
May	Evening	1	44.200	--		
"	Morning	2	80.000	63.922		
"	Noon	2	62.600	5.2326	0.21643	0.8221
June	Evening	4	224.62	103.19		
"	Morning	4	78.225	34.968		
"	Noon	4	139.95	103.30	2.8758	0.1082
July	Evening	4	547.80	231.61		
"	Morning	4	537.65	236.52		
"	Noon	4	353.52	47.136	1.2834	0.3233
August	Evening	4	41.650	14.076		
"	Morning	4	104.80	126.01		
"	Noon	4	18.650	7.6037	1.4798	0.2782
Sept.	Evening	4	30.850	20.493		
"	Morning	4	37.750	28.528		
"	Noon	4	26.250	18.684	0.25398	0.7811
October	Evening	4	40.025	12.326		
"	Morning	4	43.275	18.441		
"	Noon	4	48.775	23.705	0.22273	0.8046
Nov.	Evening	4	45.575	29.371		
"	Morning	4	69.525	50.434		
"	Noon	4	81.925	56.223	0.62390	0.5575
Dec.	Evening	3	36.833	11.050		
"	Morning	4	88.400	56.665		
"	Noon	4	79.175	36.127	1.4444	0.2914

Table 30. Test of diurnal variation of total algae.

					One-way analysis of variance	
Month	Time	N	Mean	Std. Dev.	F-statistic	Attained Significance Level
Feb.	Evening	3	2366.7	200.39		
"	Morning	3	3389.2	1181.2		
"	Noon	3	3148.8	1165.4	0.92090	0.4479
March	Evening	3	4297.6	1659.2		
"	Morning	3	3148.6	1068.5		
"	Noon	3	2559.4	385.79	1.7393	0.2536
April	Evening	2	6289.8	3270.6		
"	Morning	2	4916.2	546.81		
"	Noon	2	3866.7	1760.3	0.62862	0.5915
May	Evening	1	5987.9	--		
"	Morning	2	4471.8	2946.0		
"	Noon	2	4956.8	906.16	0.16134	0.8611
June	Evening	4	4003.0	88.761		
"	Morning	4	3299.6	1138.4		
"	Noon	4	3823.6	1529.8	0.43992	0.6572
July	Evening	4	4569.2	994.94		
"	Morning	4	3956.9	1014.4		
"	Noon	4	4065.6	538.55	0.55458	0.5928
August	Evening	4	1124.3	290.07		
"	Morning	4	1398.9	461.48		
"	Noon	4	1283.5	175.92	0.69531	0.5238
September	Evening	4	2630.9	673.50		
"	Morning	4	2193.3	600.81		
"	Noon	4	2302.1	976.14	0.35245	0.7122
Oct.	Evening	4	1849.6	649.87		
"	Morning	4	2553.4	1092.5		
"	Noon	4	3052.4	1010.3	1.6622	0.2430
Nov.	Evening	4	1357.1	506.09		
"	Morning	4	2184.7	966.61		
"	Noon	4	2904.2	393.69	5.3456	0.0295
Dec.	Evening	3	2888.4	385.58		
"	Morning	4	3086.1	545.41		
"	Noon	4	2416.7	594.25	1.6664	0.2483

Table 31. Comparison between major group means (cells/ml) in the intake and discharge.

Month	Major Group	Intake		Discharge	
		Mean	Standard Error	Mean	Standard Error
February	coccoid blue-green	63.2	61.0	200.	115.
	filamentous blue-green	31.9	11.8	20.8	6.47
	coccoid green	28.2	12.7	61.4	35.2
	filamentous green	19.7	14.6	14.7	7.68
	flagellates	78.6	11.4	115.	64.1
	centric diatoms	1140.	183.	821.	32.7
	pennate diatoms	1690.	276.	1530.	266.
	desmids	.617	.616	1.23	1.23
	other algae	7.37	4.16	6.13	6.12
	total algae	3070.	437.	2770.	485.
March	coccoid blue-green	75.5	73.9	619.	538.
	filamentous blue-green	42.3	9.51	94.5	48.6
	coccoid green	33.8	4.78	98.2	76.2
	filamentous green	27.6	14.7	49.1	26.0
	flagellates	256.	48.6	304.	161.
	centric diatoms	1150.	67.8	1560.	262.
	pennate diatoms	1220.	154.	1590.	304.
	desmids	.617	.616	1.23	1.23
	other algae	29.5	4.65	29.5	11.3
	total algae	2830.	292.	4350.	970.
April	coccoid blue-green	575.	91.2	50.3	36.6
	filamentous blue-green	34.4	9.58	20.9	3.26
	coccoid green	42.9	19.7	56.5	25.6
	filamentous green	0.0	0.0	0.0	0.0

Table 31. cont.

Month	Major Group	Intake		Discharge	
		Mean	Standard Error	Mean	Standard Error
April	flagellates	820.	188.	894.	380.
	centric diatoms	2150.	119.	2950.	860.
	pennate diatoms	1080.	152.	1230.	664.
	desmids	2.47	2.47	0.0	0.0
	other algae	90.8	29.8	49.1	9.81
	total algae	4800.	414.	5250.	1760.
May	coccoid blue-green	453.	438.	990.	166.
	filamentous blue-green	122.	69.9	36.9	15.3
	coccoid green	73.7	51.5	31.5	2.68
	filamentous green	0.0	0.0	4.67	2.34
	flagellates	678.	118.	426.	139.
	centric diatoms	1130.	239.	1010.	451.
	pennate diatoms	2880.	750.	2120.	791.
	desmids	3.70	3.70	0.0	0.0
	other algae	92.0	33.2	48.4	9.35
	total algae	5440.	1120.	4660.	1140.
June	coccoid blue-green	209.	209.	261.	250.
	filamentous blue-green	358.	64.1	271.	38.9
	coccoid green	155.	40.3	128.	26.0
	filamentous green	1.23	1.23	57.7	39.2
	flagellates	1060.	259.	549.	62.5
	centric diatoms	854.	96.8	779.	90.6
	pennate diatoms	1250.	106.	1190.	185.
	desmids	2.47	1.56	2.47	1.23
	other algae	130.	42.0	166.	42.0

Table 31. cont.

Month	Major Group	Intake		Discharge	
		Mean	Standard Error	Mean	Standard Error
June	total algae	4010.	433.	3400.	420.
July	coccoid blue-green	1220.	196.	894.	240.
	filamentous blue-green	87.8	49.0	103.	20.8
	coccoid green	873.	108.	1130.	179.
	filamentous green	.617	.616	0.0	0.0
	flagellates	589.	83.7	533.	179.
	centric diatoms	805.	176.	1020.	125.
	pennate diatoms	70.6	14.7	111.	18.4
	desmids	1.23	.780	3.07	2.40
	other algae	444.	46.1	516.	109.
	total algae	4090.	218.	4310.	453.
August	coccoid blue-green	256.	48.2	316.	98.8
	filamentous blue-green	4.30	1.71	13.5	4.41
	coccoid green	164.	14.8	229.	73.9
	filamentous green	0.0	0.0	1.68	1.18
	flagellates	504.	109.	504.	47.8
	centric diatoms	112.	25.5	153.	41.2
	pennate diatoms	64.0	19.6	106.	26.2
	desmids	.600	.380	.300	.300
	other algae	37.7	10.7	72.4	43.7
	total algae	1140.	116.	1400.	133.
September	coccoid blue-green	1390.	224.	1200.	310.
	filamentous blue-green	7.74	5.16	19.9	19.0
	coccoid green	138.	33.5	174.	36.0
	filamentous green	0.0	0.0	0.0	0.0

Table 31. cont.

Month	Major Group	Intake		Discharge	
		Mean	Standard Error	Mean	Standard Error
September	flagellates	675.	149.	469.	72.6
	centric diatoms	61.9	6.80	78.1	17.8
	pennate diatoms	222.	65.1	352.	103.
	desmids	0.0	0.0	0.0	0.0
	other algae	33.1	12.5	35.4	8.51
	total algae	2530.	311.	2330.	406.
October	coccoid blue-green	1150.	356.	742.	232.
	filamentous blue-green	102.	46.9	95.4	53.5
	coccoid green	129.	28.0	103.	17.0
	filamentous green	.917	.919	4.60	1.83
	flagellates	803.	89.4	590.	140.
	centric diatoms	255.	31.0	318.	24.9
	pennate diatoms	272.	48.6	318.	51.8
	desmids	.617	.616	.900	.403
	other algae	35.6	5.51	52.5	7.19
	total algae	2750.	395.	2220.	420.
November	coccoid blue-green	390.	175.	809.	269.
	filamentous blue-green	7.67	6.61	35.6	35.6
	coccoid green	273.	125.	38.7	11.6
	filamentous green	.617	.616	2.45	2.45
	flagellates	443.	78.8	390.	73.1
	centric diatoms	405.	100.	403.	91.0
	pennate diatoms	538.	102.	464.	116.
	desmids	.917	.629	0.0	0.0
	other algae	61.4	16.2	70.0	23.2
	total algae	2080.	347.	2210.	416.

Table 31. cont.

		Intake		Discharge	
		Mean	Standard Error	Mean	Standard Error
December	coccoid blue-green	245.	198.	118.	116.
	filamentous blue-green	7.38	2.33	22.1	14.0
	coccoid green	135.	98.8	89.0	41.2
	filamentous green	8.84	8.85	19.0	11.5
	flagellates	483.	99.7	273.	50.2
	centric diatoms	1380.	151.	1970.	133.
	pennate diatoms	288.	55.5	371.	64.9
	desmids	0.0	0.0	0.0	0.0
	other algae	61.9	17.4	78.6	19.9
	total algae	2610.	244.	2940.	238.

$$\bar{d} = -\sum_{i=1}^{S} (n_i/n) \log_2 (n_i/n)$$

where S is the number of species, n is the total number of phytoplankton in cell/ml, n_i is the number of phytoplankton of the i^{th} species. Diversity as presented here is not the true diversity since not all forms encountered can be identified to the species level. Therefore, this diversity must be viewed with caution. However, these diversities will be used to illustrate changes occurring within the phytoplankton population from year to year. Number of forms is self-explanatory and will be used to monitor changes which may occur in the overall structure of the phytoplankton community. Redundancy is a measure of the dominance of one or a few species within a given population. As presented by Wilhm and Dorris (1968) it is:

$$r = \frac{\bar{d}_{max} - \bar{d}}{\bar{d}_{max} - \bar{d}_{min}}$$

where $\bar{d}$ is the observed diversity as calculated above, $\bar{d}_{max}$ is the maximum diversity for a particular community, and $\bar{d}_{min}$ is the minimum possible diversity for a particular community. $\bar{d}_{max}$ is calculated using the following equation:

$$\bar{d}_{max} = (1/n)(\log_2 n! - s \log_2 [n/S]$$

and $\bar{d}_{min}$ is calculated using the equation:

$$d_{min} = (1/n)(\log_2 n! - s \log_2 [n-(S-1)]!)$$

The values of r range between 0 and 1. An r equal to 0 implies that the species encountered in a community each have the same number of cells. An r equal to 1 implies that one species dominates the community of phytoplankton. Figures 19, 20, and 21 contain monthly means and associated standard errors for each month for number of forms, diversity and redundancy. During the months of May, August, September, October, and December the diversities fall below 4.0 and the

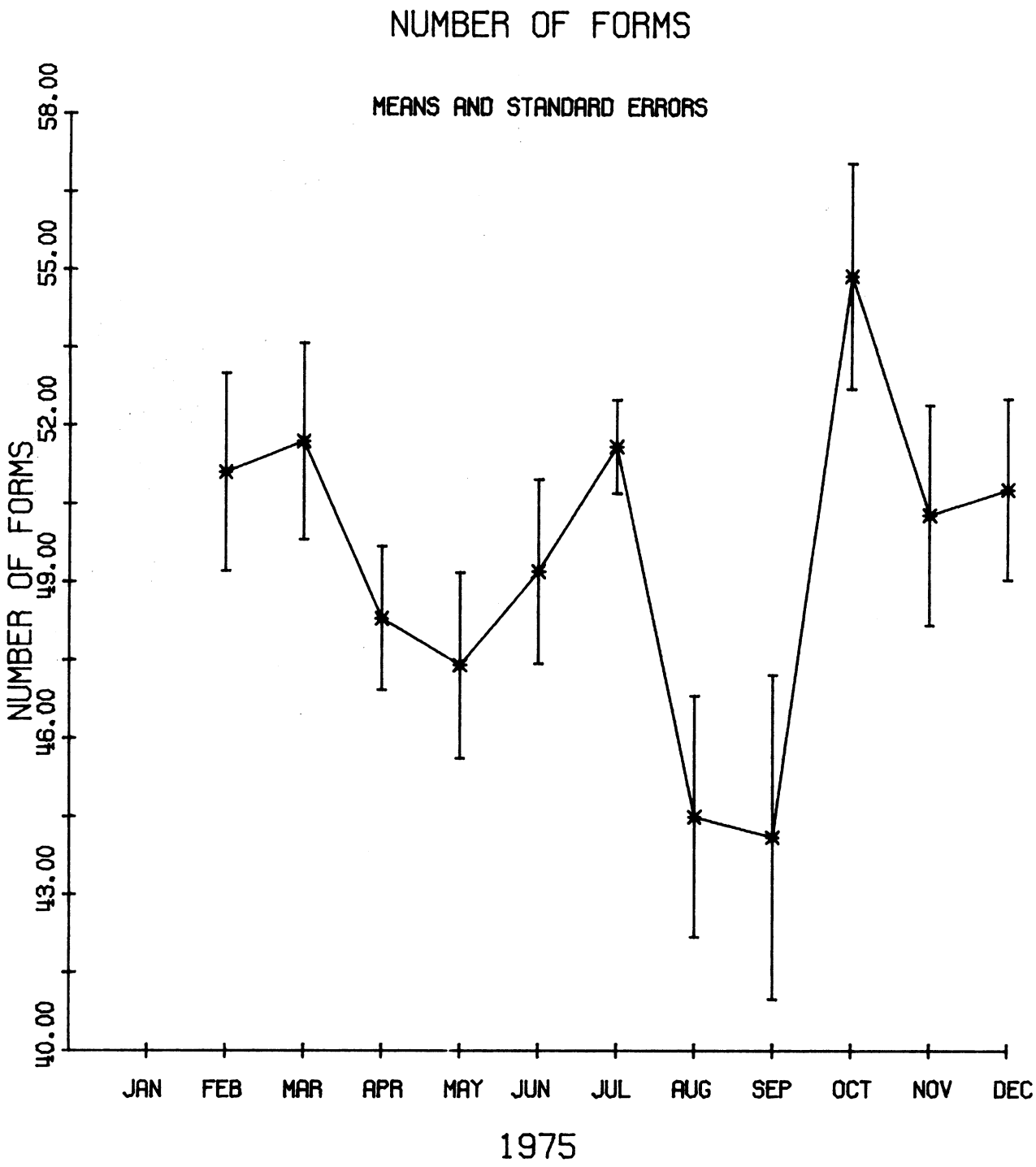

FIG. 19. Variation of number of forms of phytoplankton during 1975.

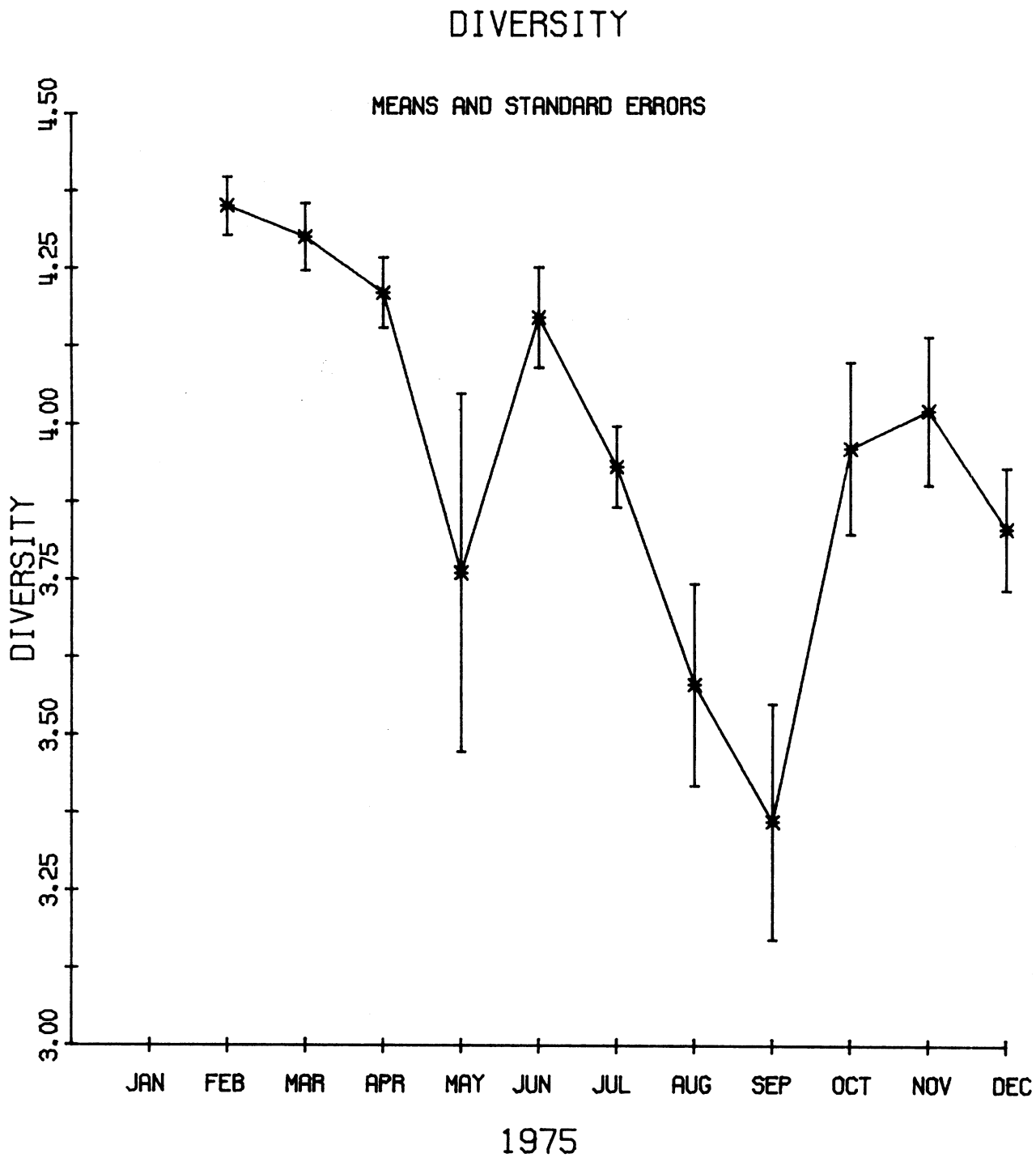

FIG. 20. Variation of phytoplankton diversity during 1975.

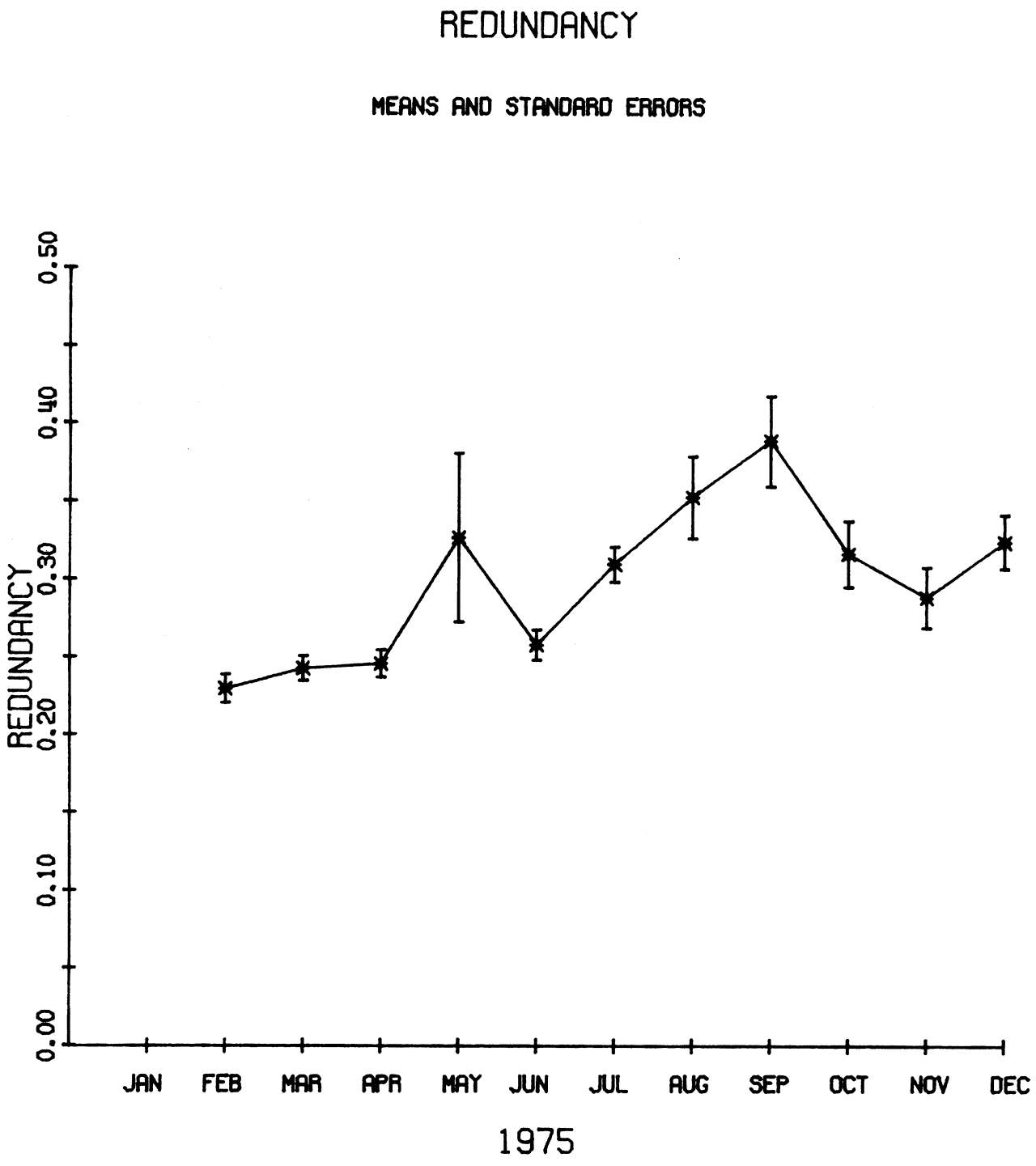

FIG. 21. Variation of phytoplankton redundancy during 1975.

redundancies are above 0.3. The resons for these months being different are: 1.) a bloom of diatoms in May and December and 2.) blooms of blue-green algae in August, September, and October.

Plume Samples

During 1975, plume samples were obtained for the months of April, May and September. Since 1976, the requirement of sampling the plume has been dropped from the plant's Technical Specifications. Part of the problem of plume sampling is what to compare the plume sample with. Water for once-through cooling is taken from a depth of 9 m pumped through the plant and discharged at a depth of 6 m. Since it is warmer than the lake water it rises and floats to the surface as a plume. During the discharge process, this water entrains nearby lake water and mixes with it in varying proportions. Because of these physical processes which alter the original character of the water circulated through the plant, it is impossible to make any judgements about what the effect of the plume is on the phytoplankton population. Plume data may be found in Appendix 3.

Numbers and Biomass of Phytoplankton Passing Through the Plant

Currently, with only unit one operating, the plant uses roughly 2700 m^3/minute for once-through cooling. Using the means of total phytoplankton densities as reperesentative for each month, an estimate of the numbers and weight of phytoplankton passing through the plant for each month can be made (Table 32). The weight of an individual phytoplankter has been given by Ayers and Seibel (1973) as 0.57×10^{-9} gm for inshore phytoplankton. Thus 4.24×10^{18} phytoplankton cells or 2.41×10^{9} gm of phytoplankton were entrained during the eleven-month period of 1975. Note must be made that the plant was assumed to be operating 100% of the time for these calculations. This is known not to be true. Since no figures of approximate percentage of

Table 32. Phytoplankton entrained by the plant during 1975.

Month	Numbers Entrained	Weight Entrained, gms
February	3.23×10^{17}	1.84×10^{8}
March	4.02×10^{17}	2.29×10^{8}
April	5.86×10^{17}	3.34×10^{8}
May	5.99×10^{17}	3.41×10^{8}
June	4.90×10^{17}	2.79×10^{8}
July	5.05×10^{17}	2.88×10^{8}
August	1.60×10^{17}	9.09×10^{7}
September	2.82×10^{17}	1.61×10^{8}
October	3.00×10^{17}	1.71×10^{8}
November	2.51×10^{17}	1.43×10^{8}
December	3.36×10^{17}	1.92×10^{8}
TOTAL	4.24×10^{18}	2.41×10^{9}

phytoplankton destroyed during condenser passage are available because of little observed plant impact, no suppositions concerning removal of numbers and weights of viable phytoplankton from the inshore regions near the plant will be made.

Long term effects of the plant's operation on phytoplankton will be made using data presented here and data collected in the future. Comparison of various years of operation and the same comparisons for the regular monthly and seasonal surveys will be made in future reports.

Chlorophylls and Phaeophytin *a*

Chlorophyll and phaeophytin *a* data have been used for several purposes. These are: 1) monitoring monthly changes in these variables, 2) a determination of the percentage change that would be detectable at the 0.05 level of significance, 3) determination of a representative sampling point in the intake forebay, 4) assessment of immediate impact of entrainment on phytoplankton viability, 5) assessment of plant impact hours after entrainment on the phytoplankton, 6) assessment of phytoplankton viability in the thermal plume from the plant, and 7) establishing the relationship between the chlorophylls and number and taxa of phytoplankton present. This last goal is convered in the last section of this report.

When phytoplankton pass through the plant several possible alterations of the population's viability may occur. Among these are killing or damage of the organism during periods of chlorination, destruction or inhibition from the mechanical and heat effects of passage, stimulation of productivity due to increased temperatures, and no effect whatsoever.

Percentage of Change Detectable at the 0.05 Level of Significance

To establish the least change in each of the chlorophylls, phaeophytin *a*, and the phaeophytin *a* to chlorophyll *a* ratio that is detectable with 95% power

by analysis of variance, the equation derived by Johnston (1974) from an equation of Sokal and Rohlf (1969, p. 247) was used. It is

$$\delta = \sigma\sqrt{\frac{2}{n}}\,(t_{\alpha[\nu]} + t_{2(1-P)[\nu]}) \qquad \text{where}$$

δ = least detectable true difference

σ = true error standard deviation

ν = degrees of freedom of the error mean square

n = typical number of observations for each case

t = student's t

α = significance level

P = power (the desired probability that a difference will be found significant).

For $\alpha = 0.05$ and $P = 0.95$, δ may be calculated. The calculated δ's for chlorophyll *a*, chlorophyll *b*, chlorophyll *c*, phaeophytin *a*, and the phaeophytin *a* to chlorophyll *a* ratio based on 101 cases consisting of 3 observations each are presented in Table 33. The large changes necessary to detect an impact on the phytoplankton have led us to modify our methodology (January 1, 1977). Instead of sonification, the samples are now ground to break up the cells for extraction into 90% acetone. A complete documentation and discussion of these changes will appear in the report on the 1976 data.

Selection of a Representative Sampling Point

Samples were collected for chlorophyll analyses at the same time as those for the previously discussed phytoplankton samples. Results of these studies are found in Tables 34 through 38. As can be seen, no significant difference at the 0.05 level of significance exists for either the horizontal or vertical directions. Therefore, MTR 1-5 at 5.5 m was chosen as a representative sampling point. This coincides with the sampling point selected for the phytoplankton enumeration samples.

Table 33. δ (least detectable true difference) for chlorophyll *a*, chlorophyll *b*, chlorophyll *c*, phaeophytin *a*, and the phaeophytin *a* to chlorophyll *a* ratio.[1]

Variable	Mean	σ, true error standard deviation	δ
chlorophyll *a*	4.58	1.50	3.63
chlorophyll *b*	0.761	0.0702	0.788
chlorophyll *c*	0.995	0.242	1.46
Phaeophytin *a*	1.38	0.909	2.83
Phaeophytin *a* / chlorophyll *a*	0.334	0.0665	0.767

[1] 0.95 probability that the difference will be significantly different at the 0.05 level.

Table 34. Mean chlorophyll *a* concentrations (milligrams per cubic meter) with standard errors and comparison of means using one-way analysis of variance for May 1975.

Location	Depth, m	Replicates	Mean	Standard Error	Comparison Between	F-statistic	Attained Significance Level
MTR 1-1	5.5	3	1.14	0.395			
MTR 1-3	5.5	3	0.963	0.113			
MTR 1-5	5.5	3	0.839	0.201	MTR 1-1, 1-3, 1-5	0.331	0.730
MTR 1-5	0.6	3	0.713	0.297			
MTR 1-5	5.5	3	0.868	0.436			
MTR 1-5	8.5	3	1.69	0.462	0.6m, 5.5m, 8.5m	1.68	0.265

Table 35. Mean chlorophyll *b* concentrations (milligrams per cubic meter) with standard errors and comparison of means using one-way analysis of variance for May 1975.

Location	Depth, m	Replicates	Mean	Standard Error	Comparison Between	F-statistic	Attained Significance Level
MTR 1-1	5.5	3	0.147	0.0617			
MTR 1-3	5.5	3	0.214	0.598			
MTR 1-5	5.5	3	0.178	0.0268	MTR 1-1, 1-3, 1-5	0.412	0.608
MTR 1-5	0.6	3	0.174	0.0474			
MTR 1-5	5.5	3	0.108	0.0480			
MTR 1-5	8.5	3	0.206	0.111	0.6m, 5.5m, 8.5m	0.441	0.663

Table 36. Mean chlorophyll *a* concentrations (milligrams per cubic meter) with standard errors and comparison of means using one-way analysis of variance for May 1975.

Location	Depth, m	Replicates	Mean	Standard Error	Comparison Between	F-statistic	Attained Significance Level
MTR 1-1	5.5	3	0.0477	0.0477			
MTR 1-3	5.5	3	0.173	0.173			
MTR 1-5	5.5	3	0.322	0.252	MTR 1-1, 1-3, 1-5	0.591	0.584
MTR 1-5	0.6	3	.572	0.224			
MTR 1-5	5.5	3	0.107	0.0542			
MTR 1-5	8.5	3	0.316	0.316	0.6m, 5.5m, 8.5m	1.07	0.403

Table 37. Mean phaeophytin *a* concentrations (milligrams per cubic meter) with standard errors and comparison of means using one-way analysis of variance for May 1975.

Location	Depth, m	Replicates	Mean	Standard Error	Comparison Between	F-statistic	Attained Significance Level
MTR 1-1	5.5	3	0.533	0.165			
MTR 1-2	5.5	3	0.963	0.358			
MTR 1-5	5.5	3	0.502	0.373	MTR 1-1, 1-3, 1-5	0.676	0.545
MTR 1-5	0.6	3	0.623	0.447			
MTR 1-5	5.5	3	0.552	0.278			
MTR 1-5	8.5	3	0.0733	0.0369	0.6m, 5.5m, 8.5m	0.963	0.564

Table 38. Mean phaeophytin *a* to chlorophyll *a* ratio with standard errors and comparison of means using one-way analysis of variance for May 1975.

Location	Depth, m	Replicates	Mean	Standard Error	Comparison Between	F-statistic	Attained Significance Level
MTR 1-1	5.5	3	0.682	0.314			
MTR 1-3	5.5	3	1.12	0.499			
MTR 1-5	5.5	3	0.851	0.669	MTR 1-1, 1-3, 1-5	0.182	0.834
MTR 1-5	0.6	3	2.54	2.27			
MTR 1-5	5.5	3	1.28	0.638			
MTR 1-5	8.5	3	0.0547	0.0340	0.6m, 5.5m, 8.5m	0.833	0.519

Assessment of Damage to Phytoplankton

Results of monthly sampling for chlorophyll analyses are found in Tables 39 through 43. Those times when chlorophyll *a* was significantly different at the 0.05 level of significance between intake and discharge are: 1) 16 April 1975 at 1200 EST--with 0 hours incubation the intake had greater concentrations than the discharge; and 2) 8 September 1975 at 2037 EST--with 39 hours incubation the intake had greater concentrations than the discharge. Differences between intake and discharge concentrations of chlorophyll *b* occurred on the following days: 1) 12 March 1975 at 0550 EST--with 0 hours incubation the intake had greater concentrations than the discharge; 2) 16 April 1975 at 0515 EST--with 0 hours incubation the intake concentrations were greater than those of the discharge; and 3) 23 July 1975 at 2155 EST--with 47 hours incubation the concentration at the intake was greater than that at the discharge. Chlorophyll *c* concentration at the intake was greater than that of the discharge on 26 February 1975 at 1230 EST with 0 hours incubation. Phaeophytin *a* differences between intake and discharge concentrations (0.05 level of significance) were noted for the following days: 1) 9 September 1975 at 0515 EST with 0 hours incubation where the discharge had a higher concentration; 2) 9 September 1975 at 1115 EST--with 0 hours incubation the intake had a greater concentration; and 3) 11 December 1975 at 1240 EST--with 34 hours incubation the intake had a higher concentration than the discharge. For the ratio of phaeophytin *a* to chlorophyll *a* the following significant differences (0.05 level of significance) were noted: 1) 3 September 1975 at 2037 EST--with 39 hours incubation the discharge ratio was greater than that of the intake; 2) 9 September 1975 at 1115 EST with 0 hours incubation the intake ratio was largest; and 3) 11 December 1975 at 1240 EST with 34 hours incubation the intake ratio was the largest. Thus on 12 out of a possible 220 occasions a significant difference

TABLE 39. MEAN CHLOROPHYLL A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
02/25/75	2000	I5 0	3	0.379E+01	0.490E+00			
02/25/75	2000	I6 0	3	0.381E+01	0.146E+00			
02/25/75	2000	D 0	3	0.379E+01	0.197E+00	I5, I6, D	0.159E-02	0.997E+00
02/25/75	2000	I5 37	3	0.357E+01	0.207E+00			
02/25/75	2000	I6 37	3	0.473E+01	0.333E+00			
02/25/75	2000	D 37	3	0.508E+01	0.102E+01	I5, I6, D	0.157E+01	0.285E+00
02/26/75	0745	I5 0	3	0.528E+01	0.160E+00			
02/26/75	0745	I6 0	3	0.543E+01	0.117E+00			
02/26/75	0745	D 0	3	0.565E+01	0.572E+00	I5, I6, D	0.283E+00	0.761E+00
02/26/75	1230	I5 0	3	0.625E+01	0.591E+00			
02/26/75	1230	I6 0	3	0.587E+01	0.543E+00			
02/26/75	1230	D 0	3	0.591E+01	0.437E-01	I5, I6, D	0.198E+00	0.821E+00
03/11/75	2015	I5 0	3	0.460E+01	0.104E+00			
03/11/75	2015	I6 0	3	0.472E+01	0.150E+00			
03/11/75	2015	D 0	3	0.462E+01	0.471E+00	I5, I6, D	0.486E-01	0.949E+00
03/11/75	2015	I5 34	3	0.501E+01	0.486E+00			
03/11/75	2015	I6 34	3	0.484E+01	0.789E+00			
03/11/75	2015	D 34	3	0.482E+01	0.171E+00	I5, I6, D	0.355E-01	0.962E+00
03/12/75	0550	I5 0	3	0.489E+01	0.102E+00			
03/12/75	0550	I6 0	3	0.478E+01	0.766E+00			
03/12/75	0550	D 0	3	0.505E+01	0.374E+00	I5, I6, D	0.736E-01	0.925E+00
03/12/75	1220	I5 0	3	0.498E+01	0.240E+00			
03/12/75	1220	I6 0	3	0.598E+01	0.648E+00			
03/12/75	1220	D 0	3	0.613E+01	0.847E+00	I5, I6, D	0.986E+00	0.428E+00
04/15/75	2110	I5 0	3	0.106E+02	0.107E+01			
04/15/75	2110	D 0	3	0.103E+02	0.564E+00	I5, D	0.488E-01	0.822E+00
04/15/75	2110	I5 48	3	0.136E+02	0.314E+01			
04/15/75	2110	D 48	3	0.128E+02	0.462E+00	I5, D	0.593E-01	0.807E+00
04/16/75	0515	I5 0	3	0.839E+01	0.666E+00			
04/16/75	0515	D 0	3	0.787E+01	0.817E+00	I5, D	0.249E+00	0.642E+00
04/16/75	1200	I5 0	3	0.118E+02	0.529E+00			
04/16/75	1200	D 0	3	0.923E+01	0.754E+00	I5, D	0.778E+01	0.518E-01

TABLE 39. MEAN CHLOROPHYLL A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
05/12/75	2145	I5 0	3	0.146E+02	0.110E+01			
05/12/75	2145	D 0	3	0.133E+02	0.590E+00	I5, D	0.109E+01	0.358E+00
05/12/75	2145	I5 43	3	0.967E+01	0.244E+01			
05/12/75	2145	D 43	3	0.558E+01	0.159E+01	I5, D	0.198E+01	0.233E+00
05/13/75	1115	I5 0	3	0.125E+02	0.902E+00			
05/13/75	1115	D 0	3	0.110E+02	0.223E+01	I5, D	0.394E+00	0.566E+00
05/14/75	0400	I5 0	3	0.656E+01	0.170E+01			
05/14/75	0400	D 0	3	0.804E+01	0.116E+01	I5, D	0.520E+00	0.513E+00
06/10/75	2140	I5 0	3	0.862E+01	0.118E+01			
06/10/75	2140	D 0	3	0.999E+01	0.402E+00	I5, D	0.121E+01	0.335E+00
06/10/75	2140	I5 36	3	0.113E+02	0.115E+00			
06/10/75	2140	D 36	3	0.118E+02	0.233E+00	I5, D	0.420E+01	0.112E+00
06/11/75	0330	I5 0	3	0.104E+02	0.185E+01			
06/11/75	0330	D 0	3	0.882E+01	0.740E+00	I5, D	0.592E+00	0.487E+00
06/11/75	1120	I5 0	3	0.711E+01	0.709E+00			
06/11/75	1120	D 0	3	0.879E+01	0.719E+00	I5, D	0.278E+01	0.172E+00
07/23/75	2155	I5 0	3	0.201E+01	0.649E-01			
07/23/75	2155	D 0	3	0.195E+01	0.130E+00	I5, D	0.135E+00	0.724E+00
07/23/75	2155	I5 47	3	0.144E+01	0.167E+00			
07/23/75	2155	D 47	3	0.131E+01	0.187E+00	I5, D	0.251E+00	0.641E+00
07/24/75	0445	I5 0	3	0.170E+01	0.271E+00			
07/24/75	0445	D 0	3	0.189E+01	0.150E+00	I5, D	0.390E+00	0.567E+00
07/24/75	1115	I5 0	3	0.146E+01	0.155E+00			
07/24/75	1115	D 0	3	0.104E+01	0.105E+00	I5, D	0.494E+01	0.924E-01
08/11/75	2115	I5 0	3	0.110E+01	0.848E-01			
08/11/75	2115	D 0	3	0.969E+00	0.102E+00	I5, D	0.102E+01	0.371E+00
08/11/75	2115	I5 38	3	0.636E+00	0.658E-01			
08/11/75	2115	D 38	3	0.465E+00	0.232E+00	I5, D	0.501E+00	0.520E+00
08/12/75	0455	I5 0	3	0.104E+01	0.115E+00			
08/12/75	0455	D 0	3	0.113E+01	0.291E-01	I5, D	0.531E+00	0.509E+00
08/12/75	1105	I5 0	3	0.742E+00	0.175E+00			
08/12/75	1105	D 0	3	0.892E+00	0.185E+00	I5, D	0.348E+00	0.588E+00

TABLE 39. MEAN CHLOROPHYLL A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
09/08/75	2037	I5 0	3	0.210E+01	0.233E+00			
09/08/75	2037	D 0	3	0.218E+01	0.334E+00	I5, D	0.354E-01	0.846E+00
09/08/75	2037	I5 39	2	0.131E+01	0.125E+00			
09/08/75	2037	D 39	2	0.710E+00	0.315E-01	I5, D	0.220E+02	0.431E-01
09/09/75	0515	I5 0	3	0.142E+01	0.185E+00			
09/09/75	0515	D 0	3	0.146E+01	0.262E+00	I5, D	0.156E-01	0.893E+00
09/09/75	1115	I5 0	3	0.168E+01	0.176E+00			
09/09/75	1115	D 0	3	0.143E+01	0.217E+00	I5, D	0.803E+00	0.423E+00
10/22/75	1950	I5 0	3	0.175E+01	0.204E+00			
10/22/75	1950	D 0	3	0.180E+01	0.160E+00	I5, D	0.323E-01	0.852E+00
10/22/75	1950	I5 37	3	0.180E+01	0.224E+00			
10/22/75	1950	D 37	3	0.179E+01	0.404E-01	I5, D	0.344E-02	0.945E+00
10/23/75	0453	I5 0	3	0.164E+01	0.197E+00			
10/23/75	0453	D 0	3	0.167E+01	0.149E+00	I5, D	0.894E-02	0.917E+00
10/23/75	0453	I5 27	3	0.168E+01	0.851E-01			
10/23/75	0453	D 27	3	0.145E+01	0.399E+00	I5, D	0.332E+00	0.596E+00
10/23/75	1115	I5 0	3	0.171E+01	0.156E+00			
10/23/75	1115	D 0	3	0.162E+01	0.504E-01	I5, D	0.303E+00	0.611E+00
10/23/75	1115	I5 22	3	0.188E+01	0.480E+00			
10/23/75	1115	D 22	3	0.156E+01	0.115E+00	I5, D	0.361E+00	0.581E+00
11/17/75	1930	I5 0	3	0.296E+01	0.214E+00			
11/17/75	1930	D 0	3	0.245E+01	0.425E+00	I5, D	0.114E+01	0.348E+00
11/17/75	1930	I5 24	3	0.294E+01	0.299E+00			
11/17/75	1930	D 24	2	0.354E+01	0.570E+00	I5, D	0.109E+01	0.374E+00
11/17/75	1930	I5 48	3	0.298E+01	0.277E+00			
11/17/75	1930	D 48	3	0.282E+01	0.754E-01	I5, D	0.310E+00	0.607E+00
11/18/75	0600	I5 0	3	0.308E+01	0.173E+00			
11/18/75	0600	D 0	3	0.330E+01	0.112E+00	I5, D	0.117E+01	0.341E+00
11/18/75	0600	I5 24	3	0.348E+01	0.267E+00			
11/18/75	0600	D 24	3	0.304E+01	0.266E+00	I5, D	0.138E+01	0.306E+00
11/18/75	0600	I5 48	3	0.296E+01	0.794E-01			
11/18/75	0600	D 48	3	0.271E+01	0.162E+00	I5, D	0.187E+01	0.245E+00

TABLE 39. MEAN CHLOROPHYLL A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
11/18/75	1300	I5 0	3	0.299E+01	0.326E+00			
11/18/75	1300	D 0	3	0.323E+01	0.754E-01	I5, D	0.487E+00	0.526E+00
11/18/75	1300	I5 24	3	0.340E+01	0.285E+00			
11/18/75	1300	D 24	3	0.330E+01	0.446E+00	I5, D	0.334E-01	0.850E+00
11/18/75	1300	I5 48	3	0.314E+01	0.184E+00			
11/18/75	1300	D 48	3	0.292E+01	0.243E+00	I5, D	0.537E+00	0.507E+00
12/10/75	1835	I5 0	3	0.663E+01	0.189E+01			
12/10/75	1835	D 0	3	0.378E+01	0.273E+00	I5, D	0.221E+01	0.212E+00
12/10/75	1835	I5 34	3	0.445E+01	0.287E+00			
12/10/75	1835	D 34	3	0.450E+01	0.227E+00	I5, D	0.162E-01	0.891E+00
12/11/75	0735	I5 0	3	0.293E+01	0.143E+00			
12/11/75	0735	D 0	3	0.308E+01	0.175E+00	I5, D	0.439E+00	0.545E+00
12/11/75	0735	I5 34	3	0.294E+01	0.360E+00			
12/11/75	0735	D 34	3	0.324E+01	0.180E+00	I5, D	0.567E+00	0.496E+00
12/11/75	1240	I5 0	3	0.415E+01	0.436E+00			
12/11/75	1240	D 0	3	0.267E+01	0.329E+00	I5, D	0.734E+01	0.559E-01
12/11/75	1240	I5 34	2	0.307E+01	0.115E+00			
12/11/75	1240	D 34	2	0.331E+01	0.140E+00	I5, D	0.168E+01	0.326E+00

TABLE 40. MEAN CHLOROPHYLL B CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
02/25/75	2000	I5 0	3	0.645E+00	0.459E-01			
02/25/75	2000	I6 0	3	0.605E+00	0.416E-01			
02/25/75	2000	D 0	3	0.675E+00	0.201E+00	I5, I6, D	0.847E-01	0.915E+00
02/25/75	2000	I5 37	3	0.671E+00	0.598E-01			
02/25/75	2000	I6 37	3	0.745E+00	0.743E-01			
02/25/75	2000	D 37	3	0.665E+00	0.633E-01	I5, I6, D	0.451E+00	0.658E+00
02/26/75	0745	I5 0	3	0.118E+01	0.113E+00			
02/26/75	0745	I6 0	3	0.730E+00	0.204E+00			
02/26/75	0745	D 0	3	0.968E+00	0.591E-01	I5, I6, D	0.259E+01	0.157E+00
02/26/75	1230	I5 0	3	0.103E+01	0.620E-01			
02/26/75	1230	I6 0	3	0.106E+01	0.108E+00			
02/26/75	1230	D 0	3	0.118E+01	0.283E+00	I5, I6, D	0.207E+00	0.815E+00
03/11/75	2015	I5 0	3	0.110E+01	0.906E-01			
03/11/75	2015	I6 0	3	0.878E+00	0.384E-02			
03/11/75	2015	D 0	3	0.891E+00	0.993E-01	I5, I6, D	0.252E+01	0.163E+00
03/11/75	2015	I5 34	3	0.118E+01	0.121E+00			
03/11/75	2015	I6 34	3	0.779E+00	0.175E+00			
03/11/75	2015	D 34	3	0.993E+00	0.662E-01	I5, I6, D	0.247E+01	0.167E+00
03/12/75	0550	I5 0	3	0.633E+00	0.125E+00			
03/12/75	0550	I6 0	3	0.133E+01	0.251E+00			
03/12/75	0550	D 0	3	0.557E+00	0.946E-01	I5, I6, D	0.616E+01	0.372E-01
03/12/75	1220	I5 0	3	0.102E+01	0.200E-01			
03/12/75	1220	I6 0	3	0.971E+00	0.240E+00			
03/12/75	1220	D 0	3	0.677E+00	0.292E+00	I5, I6, D	0.712E+00	0.530E+00
04/15/75	2110	I5 0	3	0.204E+01	0.274E+00			
04/15/75	2110	D 0	3	0.147E+01	0.491E-01	I5, D	0.419E+01	0.112E+00
04/15/75	2110	I5 48	3	0.175E+01	0.626E+00			
04/15/75	2110	D 48	3	0.184E+01	0.216E+00	I5, D	0.198E-01	0.881E+00
04/16/75	0515	I5 0	3	0.178E+01	0.606E-01			
04/16/75	0515	D 0	3	0.130E+01	0.186E-01	I5, D	0.573E+02	0.334E-02
04/16/75	1200	I5 0	3	0.151E+01	0.199E+00			
04/16/75	1200	D 0	3	0.170E+01	0.211E+00	I5, D	0.416E+00	0.555E+00

TABLE 40. MEAN CHLOROPHYLL B CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
05/12/75	2145	I5 0	3	0.227E+01	0.167E+00			
05/12/75	2145	D 0	3	0.212E+01	0.333E+00	I5, D	0.169E+00	0.696E+00
05/12/75	2145	I5 43	3	0.132E+01	0.477E+00			
05/12/75	2145	D 43	3	0.884E+00	0.266E+00	I5, D	0.639E+00	0.471E+00
05/13/75	1115	I5 0	3	0.208E+01	0.223E+00			
05/13/75	1115	D 0	3	0.164E+01	0.538E+00	I5, D	0.570E+00	0.495E+00
05/14/75	0400	I5 0	3	0.562E+00	0.926E-01			
05/14/75	0400	D 0	3	0.755E+00	0.115E+00	I5, D	0.169E+01	0.264E+00
06/10/75	2140	I5 0	3	0.127E+01	0.143E+00			
06/10/75	2140	D 0	3	0.151E+01	0.132E+00	I5, D	0.153E+01	0.285E+00
06/10/75	2140	I5 36	3	0.838E+00	0.199E+00			
06/10/75	2140	D 36	3	0.163E+01	0.255E+00	I5, D	0.600E+01	0.728E-01
06/11/75	0330	I5 0	3	0.201E+01	0.214E+00			
06/11/75	0330	D 0	3	0.150E+01	0.188E+00	I5, D	0.317E+01	0.151E+00
06/11/75	1120	I5 0	3	0.953E+00	0.330E+00			
06/11/75	1120	D 0	3	0.147E+01	0.266E+00	I5, D	0.149E+01	0.290E+00
07/23/75	2155	I5 0	3	0.497E+00	0.294E-01			
07/23/75	2155	D 0	3	0.511E+00	0.242E-01	I5, D	0.135E+00	0.724E+00
07/23/75	2155	I5 47	3	0.436E+00	0.514E-01			
07/23/75	2155	D 47	3	0.160E+00	0.304E-01	I5, D	0.214E+02	0.123E-01
07/24/75	0445	I5 0	3	0.456E+00	0.360E-01			
07/24/75	0445	D 0	3	0.559E+00	0.372E-01	I5, D	0.395E+01	0.120E+00
07/24/75	1115	I5 0	3	0.308E+00	0.816E-01			
07/24/75	1115	D 0	3	0.337E+00	0.511E-01	I5, D	0.950E-01	0.763E+00
08/11/75	2115	I5 0	3	0.224E+00	0.386E-01			
08/11/75	2115	D 0	3	0.188E+00	0.447E-01	I5, D	0.371E+00	0.576E+00
08/11/75	2115	I5 38	3	0.854E-01	0.314E-01			
08/11/75	2115	D 38	3	0.119E+00	0.650E-01	I5, D	0.212E+00	0.666E+00
08/12/75	0455	I5 0	3	0.258E+00	0.573E-01			
08/12/75	0455	D 0	3	0.277E+00	0.271E-01	I5, D	0.899E-01	0.769E+00
08/12/75	1105	I5 0	3	0.124E+00	0.623E-01			
08/12/75	1105	D 0	3	0.213E+00	0.376E-01	I5, D	0.150E+01	0.289E+00

TABLE 40. MEAN CHLOROPHYLL B CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
09/08/75	2037	I5 0	3	0.290E+00	0.138E+00			
09/08/75	2037	D 0	3	0.408E+00	0.543E-01	I5, D	0.634E+00	0.473E+00
09/08/75	2037	I5 39	2	0.146E+00	0.270E-01			
09/08/75	2037	D 39	2	0.204E+00	0.180E-01	I5, D	0.319E+01	0.219E+00
09/09/75	0515	I5 0	3	0.320E+00	0.678E-01			
09/09/75	0515	D 0	3	0.442E+00	0.586E-01	I5, D	0.184E+01	0.247E+00
09/09/75	1115	I5 0	3	0.336E+00	0.210E-01			
09/09/75	1115	D 0	3	0.148E+00	0.718E-01	I5, D	0.633E+01	0.680E-01
10/22/75	1950	I5 0	3	0.154E+01	0.953E-01			
10/22/75	1950	D 0	3	0.146E+01	0.987E-01	I5, D	0.340E+00	0.592E+00
10/22/75	1950	I5 37	3	0.137E+01	0.809E-01			
10/22/75	1950	D 37	3	0.136E+01	0.400E-01	I5, D	0.218E-01	0.876E+00
10/23/75	0453	I5 0	3	0.142E+01	0.126E+00			
10/23/75	0453	D 0	3	0.143E+01	0.895E-01	I5, D	0.745E-02	0.923E+00
10/23/75	0453	I5 27	3	0.137E+01	0.143E+00			
10/23/75	0453	D 27	3	0.140E+01	0.182E+00	I5, D	0.167E-01	0.890E+00
10/23/75	1115	I5 0	3	0.163E+01	0.463E-01			
10/23/75	1115	D 0	3	0.166E+01	0.441E-01	I5, D	0.329E+00	0.597E+00
10/23/75	1115	I5 22	3	0.149E+01	0.134E+00			
10/23/75	1115	D 22	3	0.142E+01	0.578E-01	I5, D	0.208E+00	0.669E+00
11/17/75	1930	I5 0	3	0.875E-01	0.531E-01			
11/17/75	1930	D 0	3	0.511E-01	0.338E-01	I5, D	0.334E+00	0.595E+00
11/17/75	1930	I5 24	3	0.0	0.0			
11/17/75	1930	D 24	2	0.197E+00	0.129E+00	I5, D	0.417E+01	0.136E+00
11/17/75	1930	I5 48	3	0.940E-01	0.558E-01			
11/17/75	1930	D 48	3	0.590E-01	0.545E-01	I5, D	0.201E+00	0.674E+00
11/18/75	0600	I5 0	3	0.126E+00	0.516E-01			
11/18/75	0600	D 0	3	0.139E+00	0.705E-01	I5, D	0.220E-01	0.875E+00
11/18/75	0600	I5 24	3	0.144E-01	0.144E-01			
11/18/75	0600	D 24	3	0.847E-01	0.847E-01	I5, D	0.669E+00	0.462E+00
11/18/75	0600	I5 48	3	0.137E+00	0.551E-01			
11/18/75	0600	D 48	3	0.129E+00	0.812E-01	I5, D	0.676E-02	0.927E+00

TABLE 40. MEAN CHLOROPHYLL B CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
11/18/75	1300	I5 0	3	0.168E+00	0.168E+00			
11/18/75	1300	D 0	3	0.331E-01	0.331E-01	I5, D	0.620E+00	0.478E+00
11/18/75	1300	I5 24	3	0.132E+00	0.132E+00			
11/18/75	1300	D 24	3	0.251E-01	0.251E-01	I5, D	0.633E+00	0.473E+00
11/18/75	1300	I5 48	3	0.152E+00	0.628E-01			
11/18/75	1300	D 48	3	0.105E+00	0.196E-01	I5, D	0.517E+00	0.514E+00
12/10/75	1835	I5 0	3	0.136E+00	0.136E+00			
12/10/75	1835	D 0	3	0.170E-01	0.170E-01	I5, D	0.755E+00	0.437E+00
12/10/75	1835	I5 34	3	0.189E-01	0.189E-01			
12/10/75	1835	D 34	3	0.416E-01	0.235E-01	I5, D	0.565E+00	0.496E+00
12/11/75	0735	I5 0	3	0.249E-01	0.249E-01			
12/11/75	0735	D 0	3	0.520E-01	0.520E-01	I5, D	0.220E+00	0.660E+00
12/11/75	0735	I5 34	3	0.0	0.0			
12/11/75	0735	D 34	3	0.140E+00	0.886E-01	I5, D	0.250E+01	0.190E+00
12/11/75	1240	I5 0	3	0.0	0.0			
12/11/75	1240	D 0	3	0.239E-01	0.122E-01	I5, D	0.384E+01	0.123E+00
12/11/75	1240	I5 34	2	0.0	0.0			
12/11/75	1240	D 34	2	0.331E-01	0.331E-01	I5, D	0.100E+01	0.424E+00

TABLE 41. MEAN CHLOROPHYLL C CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
02/25/75	2000	I5 0	3	0.387E+00	0.167E+00			
02/25/75	2000	I6 0	3	0.590E+00	0.910E-01			
02/25/75	2000	D 0	3	0.644E+00	0.844E-01	I5, I6, D	0.127E+01	0.348E+00
02/25/75	2000	I5 37	3	0.899E+00	0.163E+00			
02/25/75	2000	I6 37	3	0.115E+01	0.295E+00			
02/25/75	2000	D 37	3	0.998E+00	0.290E+00	I5, I6, D	0.244E+00	0.788E+00
02/26/75	0745	I5 0	3	0.115E+01	0.208E+00			
02/26/75	0745	I6 0	3	0.857E+00	0.105E+00			
02/26/75	0745	D 0	3	0.204E+01	0.125E+01	I5, I6, D	0.703E+00	0.534E+00
02/26/75	1230	I5 0	3	0.139E+01	0.857E-01			
02/26/75	1230	I6 0	3	0.114E+01	0.109E+00			
02/26/75	1230	D 0	3	0.641E+00	0.433E-01	I5, I6, D	0.206E+02	0.317E-02
03/11/75	2015	I5 0	3	0.893E+00	0.172E+00			
03/11/75	2015	I6 0	3	0.975E+00	0.401E+00			
03/11/75	2015	D 0	3	0.650E+00	0.160E+00	I5, I6, D	0.399E+00	0.688E+00
03/11/75	2015	I5 34	3	0.107E+01	0.938E-01			
03/11/75	2015	I6 34	3	0.115E+01	0.408E+00			
03/11/75	2015	D 34	3	0.118E+01	0.169E+00	I5, I6, D	0.482E-01	0.949E+00
03/12/75	0550	I5 0	3	0.559E+00	0.149E+00			
03/12/75	0550	I6 0	3	0.984E+00	0.631E-01			
03/12/75	0550	D 0	3	0.975E+00	0.175E+00	I5, I6, D	0.312E+01	0.120E+00
03/12/75	1220	I5 0	3	0.640E+00	0.120E+00			
03/12/75	1220	I6 0	3	0.854E+00	0.178E+00			
03/12/75	1220	D 0	3	0.529E+00	0.119E-01	I5, I6, D	0.176E+01	0.252E+00
04/15/75	2110	I5 0	3	0.194E+01	0.134E+00			
04/15/75	2110	D 0	3	0.209E+01	0.163E+00	I5, D	0.461E+00	0.536E+00
04/15/75	2110	I5 48	3	0.116E+01	0.454E+00			
04/15/75	2110	D 48	3	0.229E+01	0.737E-01	I5, D	0.606E+01	0.718E-01
04/16/75	0515	I5 0	3	0.131E+01	0.297E+00			
04/16/75	0515	D 0	3	0.174E+01	0.228E+00	I5, D	0.128E+01	0.322E+00
04/16/75	1200	I5 0	3	0.162E+01	0.228E+00			
04/16/75	1200	D 0	3	0.191E+01	0.125E+00	I5, D	0.127E+01	0.324E+00

TABLE 41. MEAN CHLOROPHYLL C CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
05/12/75	2145	I5 0	3	0.167E+01	0.257E+00			
05/12/75	2145	D 0	3	0.175E+01	0.239E+00	I5, D	0.478E-01	0.824E+00
05/12/75	2145	I5 43	3	0.204E+01	0.614E+00			
05/12/75	2145	D 43	3	0.856E+00	0.309E+00	I5, D	0.299E+01	0.161E+00
05/13/75	1115	I5 0	3	0.270E+01	0.612E+00			
05/13/75	1115	D 0	3	0.181E+01	0.459E+00	I5, D	0.135E+01	0.312E+00
05/14/75	0400	I5 0	3	0.110E+01	0.363E+00			
05/14/75	0400	D 0	3	0.116E+01	0.409E+00	I5, D	0.157E-01	0.893E+00
06/10/75	2140	I5 0	3	0.102E+01	0.205E+00			
06/10/75	2140	D 0	3	0.144E+01	0.276E+00	I5, D	0.150E+01	0.289E+00
06/10/75	2140	I5 36	3	0.295E+01	0.104E+00			
06/10/75	2140	D 36	3	0.306E+01	0.747E+00	I5, D	0.200E-01	0.881E+00
06/11/75	0330	I5 0	3	0.853E+00	0.445E+00			
06/11/75	0330	D 0	3	0.184E+01	0.448E+00	I5, D	0.244E+01	0.195E+00
06/11/75	1120	I5 0	3	0.877E+00	0.446E+00			
06/11/75	1120	D 0	3	0.930E+00	0.446E+00	I5, D	0.706E-02	0.925E+00
07/23/75	2155	I5 0	3	0.395E+00	0.184E+00			
07/23/75	2155	D 0	3	0.489E+00	0.465E-01	I5, D	0.247E+00	0.644E+00
07/23/75	2155	I5 47	3	0.189E+00	0.805E-01			
07/23/75	2155	D 47	3	0.241E+00	0.200E+00	I5, D	0.584E-01	0.808E+00
07/24/75	0445	I5 0	3	0.216E+00	0.197E+00			
07/24/75	0445	D 0	3	0.528E+00	0.122E+00	I5, D	0.180E+01	0.252E+00
07/24/75	1115	I5 0	3	0.289E+00	0.917E-01			
07/24/75	1115	D 0	3	0.147E+00	0.773E-01	I5, D	0.140E+01	0.304E+00
08/11/75	2115	I5 0	3	0.160E+00	0.805E-01			
08/11/75	2115	D 0	3	0.252E+00	0.877E-01	I5, D	0.597E+00	0.485E+00
08/11/75	2115	I5 38	3	0.417E-01	0.417E-01			
08/11/75	2115	D 38	3	0.216E+00	0.108E+00	I5, D	0.227E+01	0.208E+00
08/12/75	0455	I5 0	3	0.339E+00	0.165E+00			
08/12/75	0455	D 0	3	0.657E-01	0.657E-01	I5, D	0.237E+01	0.200E+00
08/12/75	1105	I5 0	3	0.309E+00	0.164E+00			
08/12/75	1105	D 0	3	0.200E+00	0.417E-01	I5, D	0.420E+00	0.553E+00

TABLE 41. MEAN CHLOROPHYLL C CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
09/08/75	2037	I5 0	3	0.545E+00	0.352E-01			
09/08/75	2037	D 0	3	0.691E+00	0.136E+00	I5, D	0.109E+01	0.357E+00
09/08/75	2037	I5 39	2	0.306E-01	0.307E-01			
09/08/75	2037	D 39	2	0.113E+00	0.674E-01	I5, D	0.122E+01	0.386E+00
09/09/75	0515	I5 0	3	0.147E+00	0.826E-01			
09/09/75	0515	D 0	3	0.163E+00	0.102E+00	I5, D	0.159E-01	0.892E+00
09/09/75	1115	I5 0	3	0.571E+00	0.800E-01			
09/09/75	1115	D 0	3	0.230E+00	0.144E+00	I5, D	0.429E+01	0.109E+00
10/22/75	1950	I5 0	3	0.150E+01	0.278E+00			
10/22/75	1950	D 0	3	0.123E+01	0.187E+00	I5, D	0.660E+00	0.465E+00
10/22/75	1950	I5 37	3	0.139E+01	0.373E+00			
10/22/75	1950	D 37	3	0.674E+00	0.484E+00	I5, D	0.138E+01	0.306E+00
10/23/75	0453	I5 0	3	0.137E+01	0.225E+00			
10/23/75	0453	D 0	3	0.123E+01	0.146E+00	I5, D	0.269E+00	0.630E+00
10/23/75	0453	I5 27	3	0.105E+01	0.490E+00			
10/23/75	0453	D 27	3	0.136E+01	0.150E+00	I5, D	0.364E+00	0.580E+00
10/23/75	1115	I5 0	3	0.116E+01	0.227E+00			
10/23/75	1115	D 0	3	0.144E+01	0.210E+00	I5, D	0.822E+00	0.418E+00
10/23/75	1115	I5 22	3	0.117E+01	0.570E-01			
10/23/75	1115	D 22	3	0.977E+00	0.260E+00	I5, D	0.510E+00	0.517E+00
11/17/75	1930	I5 0	3	0.914E+00	0.122E+00			
11/17/75	1930	D 0	3	0.119E+01	0.267E+00	I5, D	0.855E+00	0.410E+00
11/17/75	1930	I5 24	3	0.101E+01	0.186E+00			
11/17/75	1930	D 24	2	0.107E+01	0.674E+00	I5, D	0.121E-01	0.907E+00
11/17/75	1930	I5 48	3	0.107E+01	0.522E-01			
11/17/75	1930	D 48	3	0.884E+00	0.165E+00	I5, D	0.114E+01	0.348E+00
11/18/75	0600	I5 0	3	0.500E+00	0.208E+00			
11/18/75	0600	D 0	3	0.113E+01	0.184E+00	I5, D	0.521E+01	0.866E-01
11/18/75	0600	I5 24	3	0.700E+00	0.460E-01			
11/18/75	0600	D 24	3	0.612E+00	0.210E+00	I5, D	0.169E+00	0.697E+00
11/18/75	0600	I5 48	3	0.927E+00	0.113E+00			
11/18/75	0600	D 48	3	0.107E+01	0.965E-01	I5, D	0.959E+00	0.385E+00

TABLE 41. MEAN CHLOROPHYLL C CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
11/18/75	1300	I5 0	3	0.588E+00	0.359E+00			
11/18/75	1300	D 0	3	0.900E+00	0.126E+00	I5, D	0.673E+00	0.461E+00
11/18/75	1300	I5 24	3	0.145E+01	0.142E+00			
11/18/75	1300	D 24	3	0.853E+00	0.322E+00	I5, D	0.288E+01	0.166E+00
11/18/75	1300	I5 48	3	0.105E+01	0.146E+00			
11/18/75	1300	D 48	3	0.101E+01	0.938E-01	I5, D	0.666E-01	0.797E+00
12/10/75	1835	I5 0	3	0.135E+01	0.411E+00			
12/10/75	1835	D 0	3	0.109E+01	0.943E-01	I5, D	0.390E+00	0.567E+00
12/10/75	1835	I5 34	3	0.938E+00	0.486E+00			
12/10/75	1835	D 34	3	0.126E+01	0.103E+00	I5, D	0.412E+00	0.557E+00
12/11/75	0735	I5 0	3	0.957E+00	0.131E+00			
12/11/75	0735	D 0	3	0.656E+00	0.325E+00	I5, D	0.741E+00	0.441E+00
12/11/75	0735	I5 34	3	0.656E+00	0.110E+00			
12/11/75	0735	D 34	3	0.536E+00	0.432E+00	I5, D	0.730E-01	0.788E+00
12/11/75	1240	I5 0	3	0.551E+00	0.122E+00			
12/11/75	1240	D 0	3	0.937E+00	0.416E+00	I5, D	0.794E+00	0.426E+00
12/11/75	1240	I5 34	2	0.885E+00	0.175E+00			
12/11/75	1240	D 34	2	0.121E+01	0.120E+00	I5, D	0.235E+01	0.268E+00

TABLE 42. MEAN PHAEOPHYTIN A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANLAYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
02/25/75	2000	I5 0	3	0.107E+01	0.550E+00			
02/25/75	2000	I6 0	3	0.157E+01	0.348E+00			
02/25/75	2000	D 0	3	0.119E+01	0.173E+00	I5, I6, D	0.461E+00	0.652E+00
02/25/75	2000	I5 37	3	0.206E+01	0.118E+00			
02/25/75	2000	I6 37	3	0.145E+01	0.260E+00			
02/25/75	2000	D 37	3	0.116E+01	0.631E+00	I5, I6, D	0.131E+01	0.338E+00
02/26/75	0745	I5 0	3	0.330E+01	0.802E+00			
02/26/75	0745	I6 0	3	0.138E+01	0.535E+00			
02/26/75	0745	D 0	3	0.248E+01	0.286E+00	I5, I6, D	0.275E+01	0.144E+00
02/26/75	1230	I5 0	3	0.297E+01	0.326E+00			
02/26/75	1230	I6 0	3	0.284E+01	0.252E+00			
02/26/75	1230	D 0	3	0.221E+01	0.178E+00	I5, I6, D	0.245E+01	0.169E+00
03/11/75	2015	I5 0	3	0.185E+01	0.175E+00			
03/11/75	2015	I6 0	3	0.217E+01	0.148E+00			
03/11/75	2015	D 0	3	0.112E+01	0.822E+00	I5, I6, D	0.119E+01	0.368E+00
03/11/75	2015	I5 34	3	0.190E+01	0.558E+00			
03/11/75	2015	I6 34	3	0.193E+01	0.821E+00			
03/11/75	2015	D 34	3	0.235E+01	0.225E+00	I5, I6, D	0.182E+00	0.834E+00
03/12/75	0550	I5 0	3	0.133E+01	0.493E-01			
03/12/75	0550	I6 0	3	0.213E+01	0.799E+00			
03/12/75	0550	D 0	3	0.813E+00	0.392E+00	I5, I6, D	0.165E+01	0.269E+00
03/12/75	1220	I5 0	3	0.126E+01	0.571E+00			
03/12/75	1220	I6 0	3	0.579E+00	0.270E+00			
03/12/75	1220	D 0	3	0.898E+00	0.544E+00	I5, I6, D	0.496E+00	0.633E+00
04/15/75	2110	I5 0	3	0.301E+01	0.125E+01			
04/15/75	2110	D 0	3	0.340E+01	0.714E+00	I5, D	0.749E-01	0.786E+00
04/15/75	2110	I5 48	3	0.299E+01	0.200E+01			
04/15/75	2110	D 48	3	0.238E+01	0.103E+01	I5, D	0.752E-01	0.786E+00
04/16/75	0515	I5 0	3	0.240E+01	0.461E+00			
04/16/75	0515	D 0	3	0.220E+01	0.830E+00	I5, D	0.438E-01	0.831E+00
04/16/75	1200	I5 0	3	0.697E+00	0.429E+00			
04/16/75	1200	D 0	3	0.356E+01	0.106E+01	I5, D	0.621E+01	0.696E-01

TABLE 42. MEAN PHAEOPHYTIN A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
05/12/75	2145	I5 0	3	0.330E+01	0.119E+01			
05/12/75	2145	D 0	3	0.456E+01	0.825E+00	I5, D	0.757E+00	0.436E+00
05/12/75	2145	I5 43	3	0.434E+01	0.151E+01			
05/12/75	2145	D 43	3	0.230E+01	0.672E+00	I5, D	0.152E+01	0.286E+00
05/13/75	1115	I5 0	3	0.582E+01	0.196E+00			
05/13/75	1115	D 0	3	0.332E+01	0.141E+01	I5, D	0.307E+01	0.156E+00
05/14/75	0400	I5 0	3	0.174E+01	0.434E+00			
05/14/75	0400	D 0	3	0.145E+01	0.298E+00	I5, D	0.297E+00	0.614E+00
06/10/75	2140	I5 0	3	0.401E+01	0.825E+00			
06/10/75	2140	D 0	3	0.558E+01	0.137E+01	I5, D	0.966E+00	0.383E+00
06/10/75	2140	I5 36	3	0.372E+01	0.818E+00			
06/10/75	2140	D 36	3	0.563E+01	0.219E+00	I5, D	0.508E+01	0.893E-01
06/11/75	0330	I5 0	3	0.418E+01	0.183E+01			
06/11/75	0330	D 0	3	0.373E+01	0.814E+00	I5, D	0.495E-01	0.821E+00
06/11/75	1120	I5 0	3	0.351E+01	0.573E+00			
06/11/75	1120	D 0	3	0.299E+01	0.464E+00	I5, D	0.504E+00	0.519E+00
07/23/75	2155	I5 0	3	0.147E+01	0.517E-01			
07/23/75	2155	D 0	3	0.143E+01	0.196E+00	I5, D	0.269E-01	0.864E+00
07/23/75	2155	I5 47	3	0.807E+00	0.156E+00			
07/23/75	2155	D 47	3	0.689E+00	0.212E+00	I5, D	0.199E+00	0.675E+00
07/24/75	0445	I5 0	3	0.151E+01	0.281E+00			
07/24/75	0445	D 0	3	0.116E+01	0.155E+00	I5, D	0.121E+01	0.335E+00
07/24/75	1115	I5 0	3	0.842E+00	0.149E+00			
07/24/75	1115	D 0	3	0.106E+01	0.866E-01	I5, D	0.158E+01	0.279E+00
08/11/75	2115	I5 0	3	0.574E+00	0.130E+00			
08/11/75	2115	D 0	3	0.521E+00	0.147E+00	I5, D	0.727E-01	0.789E+00
08/11/75	2115	I5 38	3	0.424E+00	0.732E-01			
08/11/75	2115	D 38	3	0.749E+00	0.344E+00	I5, D	0.857E+00	0.409E+00
08/12/75	0455	I5 0	3	0.714E+00	0.115E+00			
08/12/75	0455	D 0	3	0.450E+00	0.777E-01	I5, D	0.362E+01	0.131E+00
08/12/75	1105	I5 0	3	0.536E+00	0.182E+00			
08/12/75	1105	D 0	3	0.248E+00	0.181E+00	I5, D	0.126E+01	0.326E+00

TABLE 42. MEAN PHAEOPHYTIN A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANLAYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
09/08/75	2037	I5 0	3	0.101E+01	0.552E-01			
09/08/75	2037	D 0	3	0.750E+00	0.295E+00	I5, D	0.767E+00	0.433E+00
09/08/75	2037	I5 39	2	0.328E+00	0.146E+00			
09/08/75	2037	D 39	2	0.689E+00	0.280E-01	I5, D	0.590E+01	0.140E+00
09/09/75	0515	I5 0	3	0.389E+00	0.133E+00			
09/09/75	0515	D 0	3	0.877E+00	0.116E+00	I5, D	0.765E+01	0.529E-01
09/09/75	1115	I5 0	3	0.109E+01	0.164E+00			
09/09/75	1115	D 0	3	0.199E+00	0.118E+00	I5, D	0.196E+02	0.140E-01
10/22/75	1950	I5 0	3	0.207E+00	0.141E+00			
10/22/75	1950	D 0	3	0.593E-01	0.307E-01	I5, D	0.104E+01	0.367E+00
10/22/75	1950	I5 37	3	0.252E+00	0.252E+00			
10/22/75	1950	D 37	3	0.0	0.0	I5, D	0.100E+01	0.376E+00
10/23/75	0453	I5 0	3	0.417E+00	0.288E+00			
10/23/75	0453	D 0	3	0.346E+00	0.183E+00	I5, D	0.442E-01	0.830E+00
10/23/75	0453	I5 27	3	0.264E+00	0.749E-01			
10/23/75	0453	D 27	3	0.463E+00	0.317E+00	I5, D	0.373E+00	0.575E+00
10/23/75	1115	I5 0	3	0.392E+00	0.210E+00			
10/23/75	1115	D 0	3	0.494E+00	0.786E-01	I5, D	0.206E+00	0.670E+00
10/23/75	1115	I5 22	3	0.392E+00	0.214E+00			
10/23/75	1115	D 22	3	0.432E+00	0.157E+00	I5, D	0.227E-01	0.874E+00
11/17/75	1930	I5 0	3	0.547E+00	0.242E+00			
11/17/75	1930	D 0	3	0.947E+00	0.492E+00	I5, D	0.530E+00	0.509E+00
11/17/75	1930	I5 24	3	0.571E+00	0.354E+00			
11/17/75	1930	D 24	2	0.119E-01	0.119E-01	I5, D	0.149E+01	0.310E+00
11/17/75	1930	I5 48	3	0.566E+00	0.285E+00			
11/17/75	1930	D 48	3	0.201E+00	0.110E+00	I5, D	0.143E+01	0.300E+00
11/18/75	0600	I5 0	3	0.313E+00	0.165E+00			
11/18/75	0600	D 0	3	0.999E-01	0.730E-01	I5, D	0.140E+01	0.304E+00
11/18/75	0600	I5 24	3	0.192E+00	0.192E+00			
11/18/75	0600	D 24	3	0.482E+00	0.366E+00	I5, D	0.491E+00	0.524E+00
11/18/75	0600	I5 48	3	0.501E+00	0.120E+00			
11/18/75	0600	D 48	3	0.717E+00	0.241E+00	I5, D	0.643E+00	0.470E+00

TABLE 42. MEAN PHAEOPHYTIN A CONCENTRATIONS (MILLIGRAMS PER CUBIC METER) WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANLAYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
11/18/75	1300	I5 0	3	0.267E+00	0.146E+00			
11/18/75	1300	D 0	3	0.254E+00	0.899E-01	I5, D	0.576E-02	0.932E+00
11/18/75	1300	I5 24	3	0.211E+00	0.211E+00			
11/18/75	1300	D 24	3	0.667E+00	0.528E+00	I5, D	0.642E+00	0.471E+00
11/18/75	1300	I5 48	3	0.391E+00	0.240E+00			
11/18/75	1300	D 48	3	0.561E+00	0.281E+00	I5, D	0.210E+00	0.667E+00
12/10/75	1835	I5 0	3	0.0	0.0			
12/10/75	1835	D 0	3	0.740E+00	0.376E+00	I5, D	0.386E+01	0.123E+00
12/10/75	1835	I5 34	3	0.121E+00	0.117E+00			
12/10/75	1835	D 34	3	0.202E+00	0.141E+00	I5, D	0.196E+00	0.677E+00
12/11/75	0735	I5 0	3	0.193E+00	0.155E+00			
12/11/75	0735	D 0	3	0.102E+00	0.102E+00	I5, D	0.236E+00	0.650E+00
12/11/75	0735	I5 34	3	0.331E+00	0.205E+00			
12/11/75	0735	D 34	3	0.0	0.0	I5, D	0.259E+01	0.184E+00
12/11/75	1240	I5 0	3	0.0	0.0			
12/11/75	1240	D 0	3	0.522E+00	0.444E+00	I5, D	0.138E+01	0.306E+00
12/11/75	1240	I5 34	2	0.365E+00	0.485E-01			
12/11/75	1240	D 34	2	0.0	0.0	I5, D	0.568E+02	0.165E-01

TABLE 43. MEAN PHAEOPHYTIN A TO CHLOROPHYLL A RATIO WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.		SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
02/25/75	2000	I5	0	3	0.329E+00	0.185E+00			
02/25/75	2000	I6	0	3	0.416E+00	0.946E-01			
02/25/75	2000	D	0	3	0.321E+00	0.581E-01	I5, I6, D	0.182E+00	0.834E+00
02/25/75	2000	I5	37	3	0.584E+00	0.618E-01			
02/25/75	2000	I6	37	3	0.305E+00	0.499E-01			
02/25/75	2000	D	37	3	0.296E+00	0.171E+00	I5, I6, D	0.225E+01	0.189E+00
02/26/75	0745	I5	0	3	0.636E+00	0.175E+00			
02/26/75	0745	I6	0	3	0.253E+00	0.948E-01			
02/26/75	0745	D	0	3	0.460E+00	0.995E-01	I5, I6, D	0.222E+01	0.191E+00
02/26/75	1230	I5	0	3	0.494E+00	0.977E-01			
02/26/75	1230	I6	0	3	0.491E+00	0.582E-01			
02/26/75	1230	D	0	3	0.374E+00	0.285E-01	I5, I6, D	0.102E+01	0.417E+00
03/11/75	2015	I5	0	3	0.404E+00	0.452E-01			
03/11/75	2015	I6	0	3	0.461E+00	0.320E-01			
03/11/75	2015	D	0	3	0.272E+00	0.215E+00	I5, I6, D	0.567E+00	0.596E+00
03/11/75	2015	I5	34	3	0.407E+00	0.138E+00			
03/11/75	2015	I6	34	3	0.488E+00	0.278E+00			
03/11/75	2015	D	34	3	0.492E+00	0.625E-01	I5, I6, D	0.681E-01	0.930E+00
03/12/75	0550	I5	0	3	0.273E+00	0.112E-01			
03/12/75	0550	I6	0	3	0.524E+00	0.257E+00			
03/12/75	0550	D	0	3	0.174E+00	0.903E-01	I5, I6, D	0.131E+01	0.338E+00
03/12/75	1220	I5	0	3	0.265E+00	0.127E+00			
03/12/75	1220	I6	0	3	0.108E+00	0.512E-01			
03/12/75	1220	D	0	3	0.177E+00	0.115E+00	I5, I6, D	0.583E+00	0.588E+00
04/15/75	2110	I5	0	3	0.312E+00	0.138E+00			
04/15/75	2110	D	0	3	0.339E+00	0.859E-01	I5, D	0.272E-01	0.863E+00
04/15/75	2110	I5	48	3	0.320E+00	0.239E+00			
04/15/75	2110	D	48	3	0.188E+00	0.833E-01	I5, D	0.275E+00	0.627E+00
04/16/75	0515	I5	0	3	0.299E+00	0.833E-01			
04/16/75	0515	D	0	3	0.308E+00	0.138E+00	I5, D	0.306E-02	0.948E+00
04/16/75	1200	I5	0	3	0.623E-01	0.390E-01			
04/16/75	1200	D	0	3	0.407E+00	0.145E+00	I5, D	0.529E+01	0.851E-01

TABLE 43. MEAN PHAEOPHYTIN A TO CHLOROPHYLL A RATIO WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
05/12/75	2145	I5 0	3	0.239E+00	0.950E-01			
05/12/75	2145	D 0	3	0.340E+00	0.500E-01	I5, D	0.878E+00	0.404E+00
05/12/75	2145	I5 43	3	0.432E+00	0.473E-01			
05/12/75	2145	D 43	3	0.409E+00	0.367E-01	I5, D	0.148E+00	0.714E+00
05/13/75	1115	I5 0	3	0.472E+00	0.521E-01			
05/13/75	1115	D 0	3	0.270E+00	0.960E-01	I5, D	0.344E+01	0.139E+00
05/14/75	0400	I5 0	3	0.282E+00	0.606E-01			
05/14/75	0400	D 0	3	0.195E+00	0.584E-01	I5, D	0.106E+01	0.363E+00
06/10/75	2140	I5 0	3	0.461E+00	0.505E-01			
06/10/75	2140	D 0	3	0.565E+00	0.155E+00	I5, D	0.402E+00	0.562E+00
06/10/75	2140	I5 36	3	0.328E+00	0.684E-01			
06/10/75	2140	D 36	3	0.478E+00	0.288E-01	I5, D	0.405E+01	0.116E+00
06/11/75	0330	I5 0	3	0.501E+00	0.276E+00			
06/11/75	0330	D 0	3	0.438E+00	0.115E+00	I5, D	0.439E-01	0.830E+00
06/11/75	1120	I5 0	3	0.512E+00	0.121E+00			
06/11/75	1120	D 0	3	0.352E+00	0.747E-01	I5, D	0.126E+01	0.326E+00
07/23/75	2155	I5 0	3	0.733E+00	0.473E-01			
07/23/75	2155	D 0	3	0.750E+00	0.147E+00	I5, D	0.117E-01	0.906E+00
07/23/75	2155	I5 47	3	0.558E+00	0.798E-01			
07/23/75	2155	D 47	3	0.596E+00	0.269E+00	I5, D	0.190E-01	0.883E+00
07/24/75	0445	I5 0	3	0.974E+00	0.295E+00			
07/24/75	0445	D 0	3	0.637E+00	0.144E+00	I5, D	0.106E+01	0.364E+00
07/24/75	1115	I5 0	3	0.612E+00	0.179E+00			
07/24/75	1115	D 0	3	0.102E+01	0.700E-01	I5, D	0.455E+01	0.102E+00
08/11/75	2115	I5 0	3	0.547E+00	0.171E+00			
08/11/75	2115	D 0	3	0.583E+00	0.216E+00	I5, D	0.174E-01	0.888E+00
08/11/75	2115	I5 38	3	0.657E+00	0.557E-01			
08/11/75	2115	D 38	3	0.337E+02	0.331E+02	I5, D	0.996E+00	0.377E+00
08/12/75	0455	I5 0	3	0.731E+00	0.194E+00			
08/12/75	0455	D 0	3	0.404E+00	0.758E-01	I5, D	0.246E+01	0.193E+00
08/12/75	1105	I5 0	3	0.101E+01	0.607E+00			
08/12/75	1105	D 0	3	0.361E+00	0.269E+00	I5, D	0.951E+00	0.387E+00

TABLE 43. MEAN PHAEOPHYTIN A TO CHLOROPHYLL A RATIO WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
09/08/75	2037	I5 0	3	0.497E+00	0.706E-01			
09/08/75	2037	D 0	3	0.394E+00	0.179E+00	I5, D	0.289E+00	0.619E+00
09/08/75	2037	I5 39	2	0.241E+00	0.880E-01			
09/08/75	2037	D 39	2	0.969E+00	0.300E-02	I5, D	0.684E+02	0.137E-01
09/09/75	0515	I5 0	3	0.293E+00	0.101E+00			
09/09/75	0515	D 0	3	0.663E+00	0.170E+00	I5, D	0.351E+01	0.136E+00
09/09/75	1115	I5 0	3	0.680E+00	0.159E+00			
09/09/75	1115	D 0	3	0.147E+00	0.100E+00	I5, D	0.806E+01	0.494E-01
10/22/75	1950	I5 0	3	0.139E+00	0.995E-01			
10/22/75	1950	D 0	3	0.364E-01	0.192E-01	I5, D	0.103E+01	0.370E+00
10/22/75	1950	I5 37	3	0.182E+00	0.182E+00			
10/22/75	1950	D 37	3	0.0	0.0	I5, D	0.100E+01	0.376E+00
10/23/75	0453	I5 0	3	0.305E+00	0.232E+00			
10/23/75	0453	D 0	3	0.232E+00	0.139E+00	I5, D	0.738E-01	0.787E+00
10/23/75	0453	I5 27	3	0.156E+00	0.444E-01			
10/23/75	0453	D 27	3	0.604E+00	0.516E+00	I5, D	0.747E+00	0.439E+00
10/23/75	1115	I5 0	3	0.256E+00	0.141E+00			
10/23/75	1115	D 0	3	0.309E+00	0.598E-01	I5, D	0.122E+00	0.736E+00
10/23/75	1115	I5 22	3	0.300E+00	0.187E+00			
10/23/75	1115	D 22	3	0.283E+00	0.117E+00	I5, D	0.571E-02	0.932E+00
11/17/75	1930	I5 0	3	0.198E+00	0.985E-01			
11/17/75	1930	D 0	3	0.491E+00	0.313E+00	I5, D	0.797E+00	0.425E+00
11/17/75	1930	I5 24	3	0.222E+00	0.143E+00			
11/17/75	1930	D 24	2	0.401E-02	0.401E-02	I5, D	0.139E+01	0.325E+00
11/17/75	1930	I5 48	3	0.209E+00	0.106E+00			
11/17/75	1930	D 48	3	0.733E-01	0.404E-01	I5, D	0.143E+01	0.299E+00
11/18/75	0600	I5 0	3	0.109E+00	0.635E-01			
11/18/75	0600	D 0	3	0.316E-01	0.238E-01	I5, D	0.131E+01	0.318E+00
11/18/75	0600	I5 24	3	0.647E-01	0.647E-01			
11/18/75	0600	D 24	3	0.182E+00	0.144E+00	I5, D	0.552E+00	0.501E+00
11/18/75	0600	I5 48	3	0.170E+00	0.413E-01			
11/18/75	0600	D 48	3	0.275E+00	0.102E+00	I5, D	0.926E+00	0.393E+00

TABLE 43. MEAN PHAEOPHYTIN A TO CHLOROPHYLL A RATIO WITH STANDARD ERRORS AND COMPARISON OF MEANS USING ONE-WAY ANALYSIS OF VARIANCE. THE INC. COLUMN IS SAMPLE TYPE (I1=MTR1-1, I3=MTR1-3, I5=MTR1-5, I6=MTR1-6, D=DISCHARGE) AND NUMBER OF HOURS AFTER COLLECTION IT WAS INCUBATED.

DATE	TIME	INC.	SAMPLES	MEAN	STANDARD ERROR	COMPARISON BETWEEN	F-STATISTIC	SIGNIFICANCE
11/18/75	1300	I5 0	3	0.997E-01	0.535E-01			
11/18/75	1300	D 0	3	0.801E-01	0.299E-01	I5, D	0.102E+00	0.756E+00
11/18/75	1300	I5 24	3	0.747E-01	0.747E-01			
11/18/75	1300	D 24	3	0.262E+00	0.223E+00	I5, D	0.632E+00	0.474E+00
11/18/75	1300	I5 48	3	0.134E+00	0.878E-01			
11/18/75	1300	D 48	3	0.209E+00	0.105E+00	I5, D	0.304E+00	0.610E+00
12/10/75	1835	I5 0	3	0.0	0.0			
12/10/75	1835	D 0	3	0.211E+00	0.108E+00	I5, D	0.380E+01	0.125E+00
12/10/75	1835	I5 34	3	0.294E-01	0.285E-01			
12/10/75	1835	D 34	3	0.476E-01	0.338E-01	I5, D	0.170E+00	0.696E+00
12/11/75	0735	I5 0	3	0.717E-01	0.591E-01			
12/11/75	0735	D 0	3	0.373E-01	0.373E-01	I5, D	0.242E+00	0.647E+00
12/11/75	0735	I5 34	3	0.125E+00	0.740E-01			
12/11/75	0735	D 34	3	0.0	0.0	I5, D	0.284E+01	0.169E+00
12/11/75	1240	I5 0	3	0.0	0.0			
12/11/75	1240	D 0	3	0.205E+00	0.175E+00	I5, D	0.138E+01	0.306E+00
12/11/75	1240	I5 34	2	0.118E+00	0.115E-01			
12/11/75	1240	D 34	2	0.0	0.0	I5, D	0.106E+03	0.888E-02

between intake and discharge was observed in the chlorophyll data. Eight of these exhibited inhibition of the phytoplankton and four enhancement of the phytoplankton. One occurrence was in February, one in March, two in April, one in July, five in September, and two in December. Only one of these differences coincided with differences noted in the phytoplankton population. This was during the month of December. At evening twilight, the coccoid green algae occurred in numbers significantly less at the discharge (49.7) than at the intake (526.6). This indicates that the population at the intake was not the same as that sampled at the discharge. Therefore, those differences noted for December are natural and not plant induced. Because of the low rate of occurrence of significant differences, it is concluded that the plant is not having a measurable impact on the phytoplankton.

Monthly Variation of the Chlorophylls and Phaeophytin a

Figures 22 through 26 illustrate the variation of chlorophyll *a*, chlorophyll *b*, chlorophyll *c*, and phaeophytin *a* during 1975 at the intake forebay of the Donald C. Cook Nuclear Plant. Typical of each of the chlorophylls are the peaks during April and May for all three and through June for chlorophyll *a* and chlorophyll *b*. These occur during what is termed the spring bloom. In addition, chlorophyll *a* and chlorophyll *b* peaks occur in October. These October peaks could have been the result of an upwelling two days before the samples were collected. Such an upwelling could have carried nutrients to the epilimnion and stimulated phytoplankton growth. Phaeophytin *a* mimics chlorophyll *a* except during October through December. Looking at Figure 26, the variation in viability throughout the year indicates that the population was healthy during April, October, November, and December. This is most likely related to the availability of nutrients. No thermocline existed in April and nutrients were abundant (Table 44). Overturn was complete in November. This supplied the phytoplankton

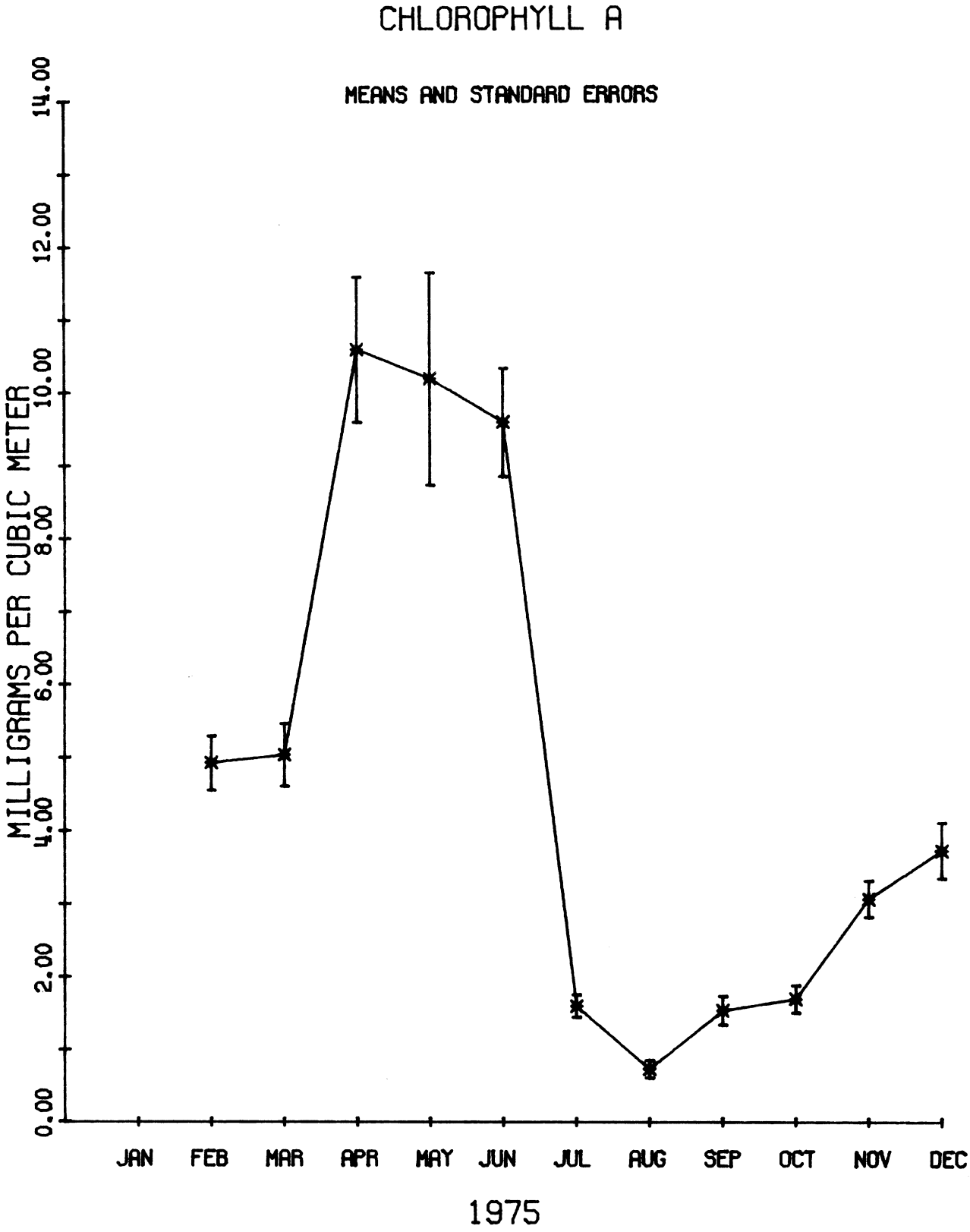

Fig. 22. Variation of chlorophyll a concentrations during 1975.

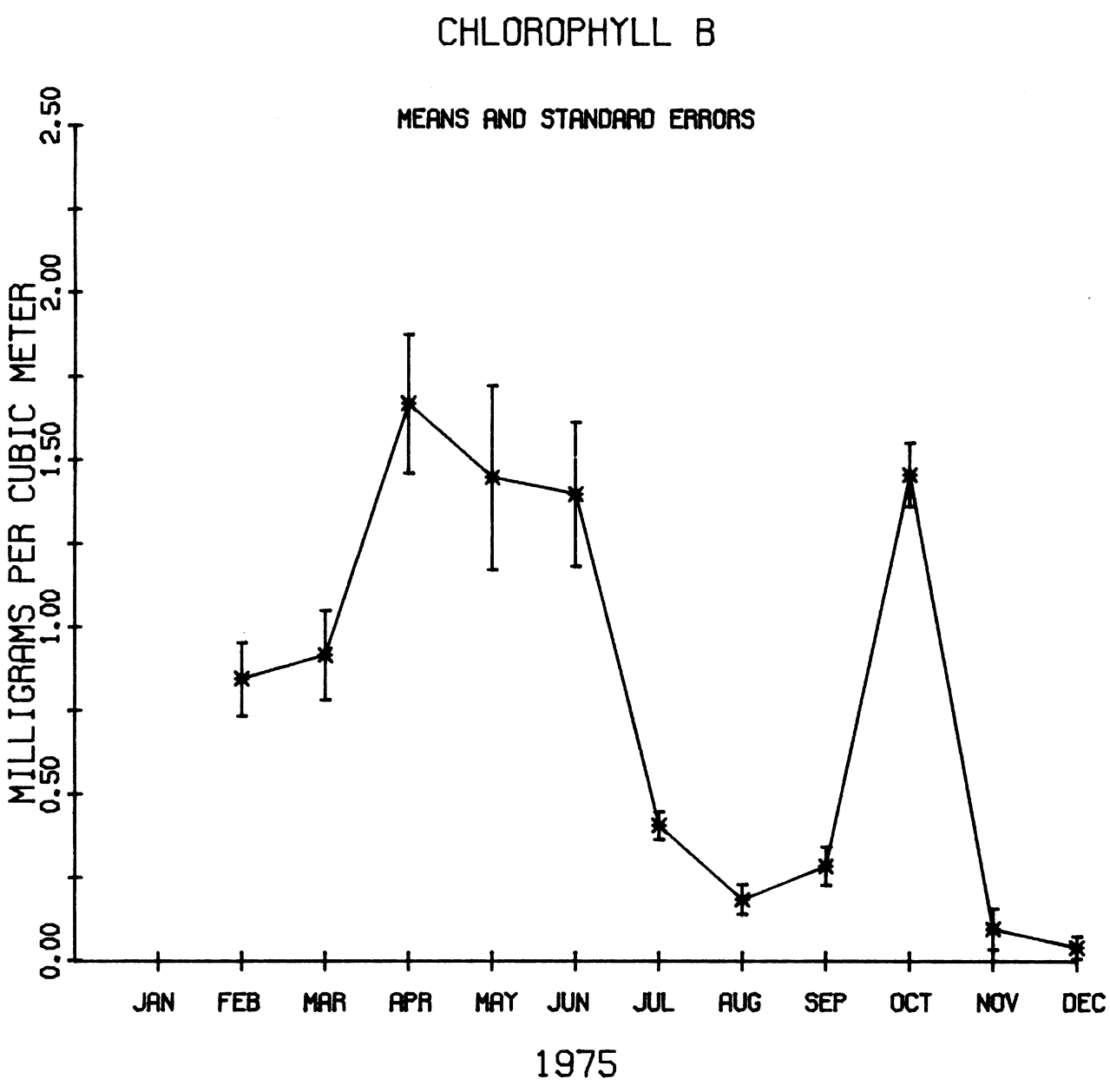

FIG. 23. Variation of chlorophyll *b* concentrations during 1975.

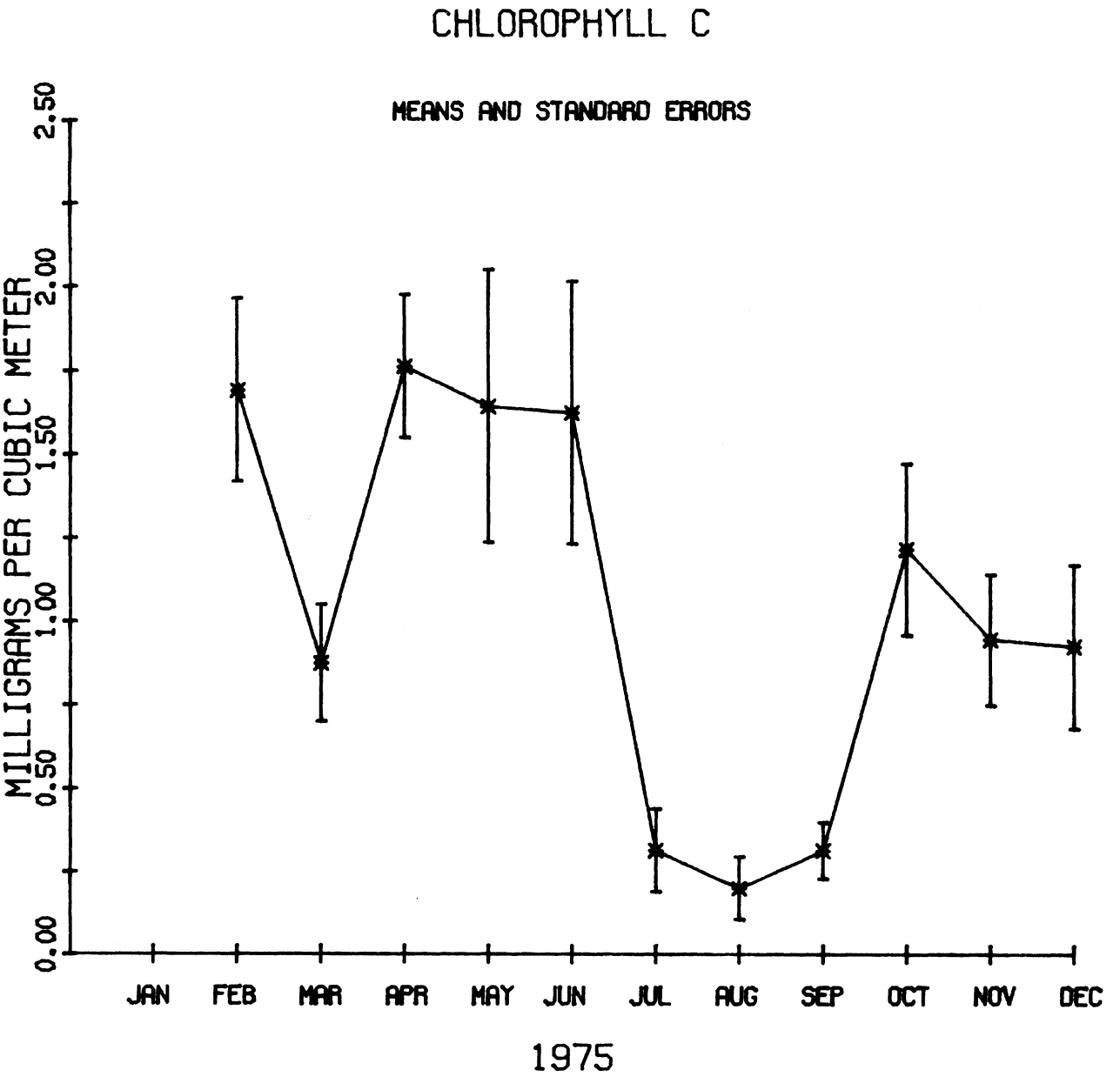

FIG. 24. Variation of chlorophyll *c* concentrations during 1975.

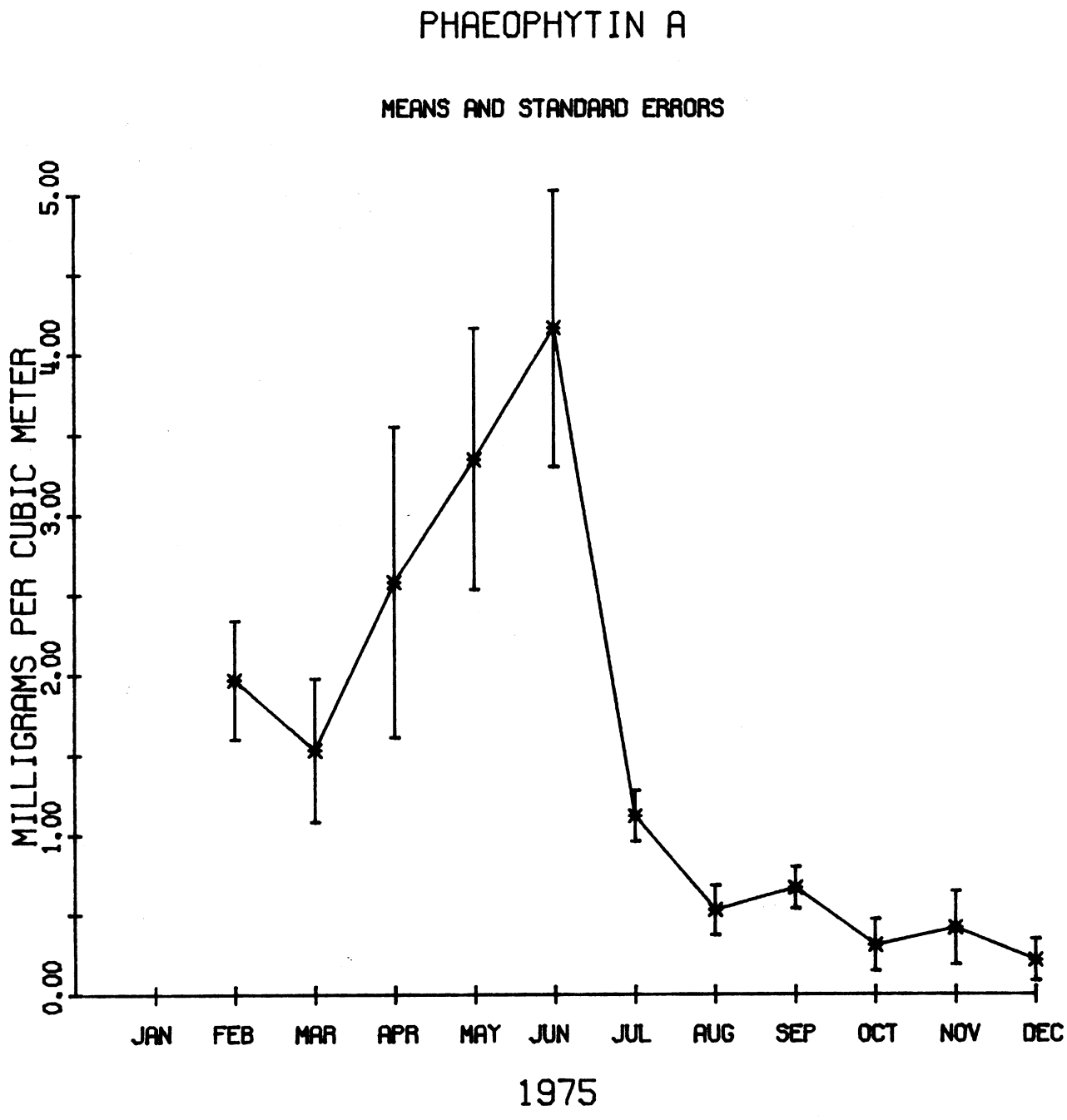

FIG. 25. Variation of phaeophytin a concentrations during 1975.

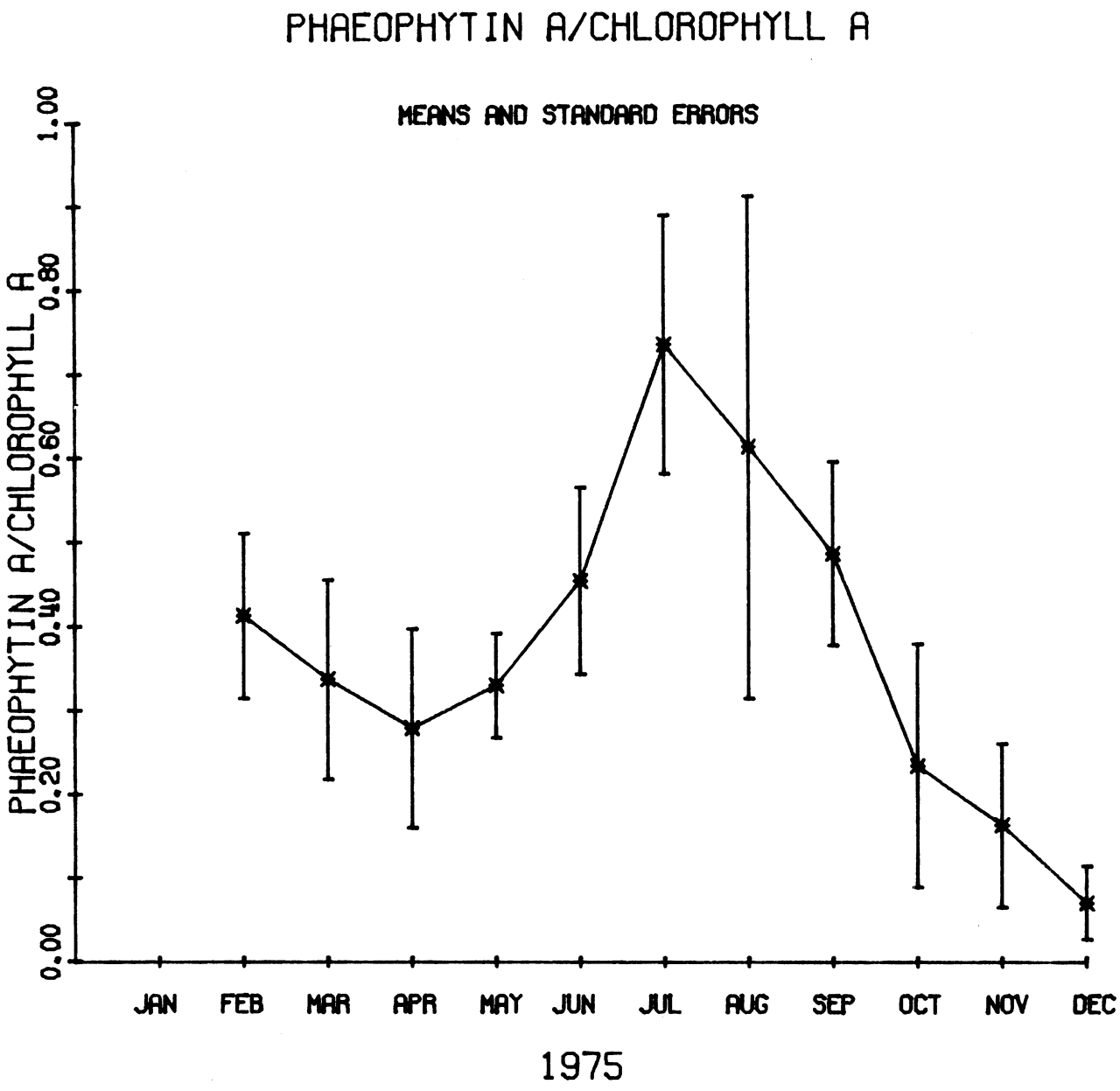

FIG. 26. Variation of the phaeophytin a/chlorophyll a ratio during 1975.

Table 44. Nutrient concentrations offshore of the plant during entrainment studies.

Month	Soluble Reactive PO_4^{-2}-P, ppb	Total PO_4^{-2}-P, ppb	Soluble Reactive SiO_2, ppm
April	1.6	16.	0.64
July epilimnion	1.1	4.4	0.10
July hypolimnion	1.6	8.1	0.96
October	0.68	7.6	0.47

with nutrients. Conversely, during nutrient limitation, which occurs in the epilimnion during strong thermal stratification, the viability of the phytoplankton decreases. The thermocline was set up in June. Hence during the warm months of June, July, August, September and October, nutrients could be limiting, except during an upwelling, and low viability resulted.

Plume Studies

Samples were collected from the plume, observed area of turbulence or temperature greater than ambient lake water, on an irregular basis due to weather problems. Plume sampling, as indicated in the phytoplankton section of this report, did not prove very satisfactory. Since an interpretation of the data is impossible, the data are simply presented in Appendix 4.

INTER-RELATIONSHIP BETWEEN PHYTOPLANKTON CELL COUNTS AND CHLOROPHYLL ANALYSES

Relationships exist between the numbers of phytoplankton counted for various categories and the chlorophylls and phaeophytin *a* measured. In general dinoflagellates and diatoms contain chlorophyll *a* and chlorophyll *c*; green algae, desmids, and euglenoid flagellates contain chlorophyll *a* and chlorophyll *b*; and blue-green algae contain chlorophyll *a* (Vernon and Seely, 1966 and Boney, 1975). Some desmids are known to lack chlorophyll *b* (Vernon and Seely, 1966). The relationship between cell counts, phaeophytin *a*, and the chlorophylls should be evident in correlation coefficients calculated for the chlorophylls with numbers of phytoplankton in each group. Initially, a simple correlation matrix was calculated for these variables (Table 45). As expected, total phytoplankton (cells/ml) are directly related to concentrations of chlorophylls *a*, *b*, and *c* and phaeophytin *a*. Because blue-green algae and diatoms do not contain chlorophyll *b*, the direct relationship between chlorophyll *b* and filamentous blue-green algae and pennate diatoms was unexpected. Both centric and pennate diatoms are directly related to chlorophylls *a* and *c* and

Table 45. CORRELATION MATRIX for 1975 chlorophyll and phytoplankton results. N = 32, DF = 30, R@ .0500 = .3494, R@ .0100 = .4487.

VARIABLE	chlorophyll a	chlorophyll b	chlorophyll c	phaeophytin a	phaeophytin a/chlorophyll a	coccoid blue-green algae	filamentous blue-green algae	coccoid green algae	filamentous green algae	flagellated algae	centric diatoms	pennate diatoms	desmids	other algae	total algae
chlorophyll a	1.0000														
chlorophyll b	.6786	1.0000													
chlorophyll c	.5783	.7569	1.0000												
phaeophytin a	.8455	.6836	.4134	1.0000											
phaeophytin a/chlorophyll a	-.2011	-.0490	-.3966	.2403	1.0000										
coccoid blue-green algae	-.4036	-.1224	-.0788	-.2993	.1880	1.0000									
filamentous blue-green algae	.3823	.4573	.1787	.5937	.2084	-.0155	1.0000								
coccoid green algae	-.3754	-.2698	-.3884	-.1232	.6629	.4085	.1295	1.0000							
filamentous green algae	.2171	.0884	.0304	.2892	-.0623	-.3787	.3690	-.1818	1.0000						
flagellated algae	.1177	.1601	.2820	.1326	.0884	.0326	.1120	-.0015	-.2631	1.0000					
centric diatoms	.6178	.3444	.3815	.3799	-.2470	-.4186	-.0815	-.1262	.1613	-.0680	1.0000				
pennate diatoms	.7701	.5405	.4569	.7316	-.1516	-.3138	.2254	-.4341	.3767	-.1488	.4042	1.0000			
desmids	.2170	.2608	.0216	.2799	.2068	-.0293	.3509	.1806	-.1926	.1252	.0658	.1384	1.0000		
other algae	-.1478	-.1090	-.2634	.0928	.5943	.2760	.2454	.8746	-.0812	.0926	.0324	-.2904	.3653	1.0000	
total algae	.6679	.5452	.4553	.6427	.0992	.1117	.2772	.1866	.1026	.0507	.6885	.5785	.2835	.3435	1.0000

phaeophytin *a*. In addition, filamentous blue-green algae are directly related to phaeophytin *a*. Other than the direct relationship between chlorophyll *b* and filamentous blue-green algae and pennate diatoms, lack of correlations between chlorophyll *b* and coccoid green algae and filamentous green algae, a correlation between flagellates and chlorophylls *a*, *b*, and *c*, and an inverse correlation between coccoid blue-green algae and coccoid green algae with chlorophyll *a* must be explained. One attempt was made to explain these discrepancies by grouping all phytoplankton into subgroups made up of all those containing chlorophyll *b* (coccoid green and filamentous green algae) and chlorophyll *c* (centric and pennate diatoms). Others and flagellates were not included with either of the groups since their relationship to these chlorophylls is not consistent for all species encompassed by these groups. Desmids were excluded because they never are more than 1% of the total phytoplankton. Table 46 is the correlation matrix obtained for these groupings. This new matrix is not much different from the first. Because of the inverse relationship between green algae and the chlorophylls, it is concluded that the current technique employed for these analyses does not quantitatively extract chlorophylls *a* and *b* from these two groups of algae. Because of the good correlations of chlorophylls and total phytoplankton, the following regression equation was calculated:

$$\text{Total phytoplankton (cells/ml)} = 156.98\ (\text{total chlorophyll} + \text{phaeophytin } a) + 1933.7$$

This equation has all coefficients and constants significant at the 0.05 level of significance. Obviously if our extraction technique for the chlorophylls and phaeophytin *a* is biased, as suspected, this equation will have to be revised.

CONCLUSION

At the present time as illustrated by the 1975 data, no major repeatable

Table 46. Correlation matrix for chlorophyll and phytoplankton group on the basis of expected chlorophyll content. N = 32, DF = 30, R@ .0500 = .3494, R@ .0100 = .4487.

VARIABLE	chlorophyll a	chlorophyll b	chlorophyll c	phaeophytin a	total chlorophyll	green algae	diatoms
chlorophyll a	1.0000						
chlorophyll b	.6786	1.0000					
chlorophyll c	.5783	.7569	1.0000				
phaeophytin a	.8455	.6836	.4134	1.0000			
total chlorophyll	.6448	.5050	.3947	.5882	1.0000		
green algae	-.3638	-.2664	-.3903	-.1038	.1035	1.0000	
diatoms	.8235	.5222	.4979	.6530	.8113	-.3064	1.0000

impact of condenser passage has been noted in the phytoplankton. However, the apparent stimulation of *Tabellaria fenestrata v. intermedia* during February and March when deicing was occurring and decline coincident with the cessation of deicing should be and is being investigated further. Results of this study as well as a comparison of the 1975 and 1976 data will appear in the report on 1976 data. Current standard errors obtained for the chlorophyll and phaeophytin *a* analyses leave much to be desired. These concerns regarding sample analysis are currently under investigation with the hope of decreasing the size of standard errors obtained and hence decreasing the size of change necessary before detection can be accomplished.

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Appendix 1. Results of microscopic counting of 1975 entrainment phytoplankton.

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for February 1975.

25 FEB 75 I5 2000

Number of forms = 50
Temperature(C) = 2.2

Diversity = 4.15
Counted by: D.B.

Taxon	Cells/ml	Percent
Achnanthes sp.	3.7	0.17
Asterionella formosa	147.3	6.90
Caloneis ventricosa v. trunculata	3.7	0.17
Cocconeis sp.	3.7	0.17
Cyclotella comta	3.7	0.17
Cyclotella cryptica	7.4	0.34
Cyclotella kuetzingiana v planetophora	3.7	0.17
Cyclotella kuetzingiana	3.7	0.17
Cyclotella michiganiana	7.4	0.34
Cyclotella ocellata	14.7	0.69
Cyclotella sp.	18.4	0.86
Cyclotella stelligera	261.5	12.24
Diatoma tenue v. elongatum	81.0	3.79
Dinoflagellates	3.7	0.17
Diploneis oculata	3.7	0.17
Flagellates	103.1	4.83
Fragilaria capucina	3.7	0.17
Fragilaria crotonensis	441.9	20.69
Fragilaria intermedia	44.2	2.07
Gloeocystis planctonica	14.7	0.69
Melosira islandica	3.7	0.17
Melosira italica	73.7	3.45
Melosira varians	7.4	0.34
Navicula rhynchocephala	3.7	0.17
Navicula sp.	7.4	0.34
Nitzschia acicularis	44.2	2.07
Nitzschia acuta	3.7	0.17
Nitzschia bacata	7.4	0.34
Nitzschia confinis	47.9	2.24
Nitzschia dissipata	25.8	1.21
Nitzschia sp.	11.0	0.52
Oscillatoria sp.	3.7	0.17
Phacus sp.	3.7	0.17
Rhizosolenia eriensis	3.7	0.17
Rhizosolenia gracilis	22.1	1.03
Scenedesmus sp.	7.4	0.34
Stephanodiscus alpinus	73.7	3.45
Stephanodiscus hantzschii	3.7	0.17
Stephanodiscus minutus	99.4	4.66
Stephanodiscus sp.	173.1	8.10
Stephanodiscus subtilis	3.7	0.17
Stephanodiscus tenuis	3.7	0.17
Synedra delicatissima v. angustissima	14.7	0.69
Synedra fasciculata	3.7	0.17
Synedra filiformis	125.2	5.86
Synedra minuscula	3.7	0.17
Synedra ostenfeldii	3.7	0.17
Synedra tenera	3.7	0.17
Tabellaria fenestrata v. intermedia	165.7	7.76
Tabellaria flocculosa	7.4	0.34
Total	2135.9	100.0

Entrainment for February 1975, continued.

25 FEB 75 I6 2000

Number of forms = 56
Temperature(C) = 2.2

Diversity = 4.54
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.15	Navicula viridula	3.7	0.15
Amphora ovalis	3.7	0.15	Nitzschia acicularis	81.0	3.24
Amphora ovalis v. pediculus	3.7	0.15	Nitzschia bacata	22.1	0.88
Amphora subcostulata	7.4	0.29	Nitzschia confinis	55.2	2.21
Anabaena flos-aquae	62.6	2.51	Nitzschia palea	3.7	0.15
Ankistrodesmus sp.#1	3.7	0.15	Nitzschia paleacea	3.7	0.15
Asterionella formosa	176.8	7.08	Nitzschia spiculoides	3.7	0.15
Cocconeis sp.	3.7	0.15	Nitzschia sp.	3.7	0.15
Coelastrum sp.	58.9	2.36	Nitzschia sp. #1	3.7	0.15
Cryptomonas sp.	11.0	0.44	Nitzschia sp. #2	3.7	0.15
Cyclotella comta	3.7	0.15	Oscillatoria limnetica	11.0	0.44
Cyclotella kuetzingiana v planetophora	3.7	0.15	Oscillatoria sp.	7.4	0.29
Cyclotella meneghiniana	7.4	0.29	Rhizosolenia eriensis	33.1	1.33
Cyclotella michiganiana	3.7	0.15	Rhizosolenia gracilis	3.7	0.15
Cyclotella ocellata	66.3	2.65	Rhizosolenia sp.	14.7	0.59
Cyclotella sp.	22.1	0.88	Scenedesmus sp.	22.1	0.88
Cyclotella stelligera	283.6	11.36	Stauroneis acutiuscula	3.7	0.15
Diatoma tenue v. elongatum	128.9	5.16	Stephanodiscus alpinus	55.2	2.21
Dinobryon divergens	3.7	0.15	Stephanodiscus hantzschii	14.7	0.59
Flagellates	55.2	2.21	Stephanodiscus minutus	70.0	2.80
Fragilaria capucina	294.6	11.80	Stephanodiscus sp.	114.2	4.57
Fragilaria crotonensis	221.0	8.85	Stephanodiscus subtilis	7.4	0.29
Fragilaria intermedia	36.8	1.47	Stephanodiscus tenuis	11.0	0.44
Melosira islandica	7.4	0.29	Synedra delicatissima v. angustissima	22.1	0.88
Melosira italica	36.8	1.47	Synedra ulna	3.7	0.15
Navicula cryptocephala v. veneta	3.7	0.15	Tabellaria fenestrata v. intermedia	272.5	10.91
Navicula simplex	11.0	0.44	Tabellaria flocculosa	14.7	0.59
Navicula sp.	14.7	0.59	Ulothrix sp.	92.1	3.69
			Total	2496.8	100.0

Entrainment for February 1975, continued.

25 FEB 75 D 2000

Number of forms = 50
Temperature(C) = 2.5

Diversity = 4.20
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.15
Amphora ovalis v. constricta	3.7	0.15
Amphora ovalis v. pediculus	3.7	0.15
Asterionella formosa	154.7	6.27
Centric diatom, unknown	40.5	1.64
Cryptomonas sp.	11.0	0.45
Cyclotella kuetzingiana v planetophora	3.7	0.15
Cyclotella kuetzingiana	11.0	0.45
Cyclotella michiganiana	11.0	0.45
Cyclotella ocellata	22.1	0.90
Cyclotella sp.	11.0	0.45
Cyclotella stelligera	283.6	11.49
Diatoma tenue v. elongatum	114.2	4.63
Flagellates	44.2	1.79
Fragilaria crotonensis	386.7	15.67
Fragilaria intermedia	7.4	0.30
Gloeocystis sp.	3.7	0.15
Gomphonema sp.	3.7	0.15
Gomphosphaeria lacustris	136.3	5.52
Melosira islandica	3.7	0.15
Melosira italica	51.6	2.09
Mougeotia sp.	11.0	0.45
Navicula cuspidata	3.7	0.15
Navicula menisculus v. upsaliensis	3.7	0.15
Navicula sp.	14.7	0.60
Nitzschia acicularis	66.3	2.69
Nitzschia acuta	3.7	0.15
Nitzschia bacata	11.0	0.45
Nitzschia capitellata	3.7	0.15
Nitzschia confinis	25.8	1.04
Nitzschia dissipata	3.7	0.15
Nitzschia sp.	11.0	0.45
Oscillatoria limnetica	14.7	0.60
Oscillatoria sp.	3.7	0.15
Rhizosolenia eriensis	29.5	1.19
Rhizosolenia gracilis	29.5	1.19
Stephanodiscus alpinus	33.1	1.34
Stephanodiscus binderanus	22.1	0.90
Stephanodiscus hantzschii	14.7	0.60
Stephanodiscus minutus	81.0	3.28
Stephanodiscus sp.	33.1	1.34
Stephanodiscus subtilis	11.0	0.45
Stephanodiscus tenuis	66.3	2.69
Synedra delicatissima v. angustissima	3.7	0.15
Synedra filiformis	125.2	5.07
Synedra ostenfeldii	3.7	0.15
Synedra sp.	7.4	0.30
Synedra vaucheriae v. truncata	3.7	0.15
Tabellaria fenestrata v. intermedia	471.4	19.10
Tabellaria quadrisepta	44.2	1.79
Total	2467.3	100.0

Entrainment for February 1975, continued.

26 FEB 75 I5 0745

Number of forms = 47
Temperature(C) = 4.4

Diversity = 4.50
Counted by: D.R.

Taxon	Cells/ml	Percent
Asphora sp.	3.7	0.18
Asterionella formosa	128.9	6.21
Blue-green unknown cells	11.0	0.53
Cryptomonas sp.	25.8	1.24
Cyclotella comta	3.7	0.18
Cyclotella meneghiniana	7.4	0.35
Cyclotella ocellata	33.1	1.60
Cyclotella sp.	29.5	1.42
Cyclotella stelligera	176.8	8.51
Diatoma tenue v. elongatum	110.5	5.32
Dinobryon divergens	7.4	0.35
Flagellates	62.6	3.01
Fragilaria capucina	33.1	1.60
Fragilaria crotonensis	162.0	7.80
Fragilaria intermedia	36.8	1.77
Melosira italica	88.4	4.26
Navicula decussis	7.4	0.35
Navicula radiosa v. tenella	3.7	0.18
Navicula sp.	11.0	0.53
Nitzschia acicularis	51.6	2.48
Nitzschia bacata	11.0	0.53
Nitzschia confinis	51.6	2.48
Nitzschia dissipata	7.4	0.35
Nitzschia sp.	14.7	0.71
Nitzschia sp. #1	7.4	0.35
Nitzschia sp. #2	7.4	0.35
Oscillatoria limnetica	3.7	0.18
Oscillatoria sp.	14.7	0.71
Rhizosolenia eriensis	18.4	0.89
Rhizosolenia gracilis	11.0	0.53
Rhizosolenia sp.	7.4	0.35
Rhoicosphenia curvata	3.7	0.18
Stephanodiscus alpinus	77.3	3.72
Stephanodiscus astraea	3.7	0.18
Stephanodiscus binderanus	114.2	5.50
Stephanodiscus hantzschii	7.4	0.35
Stephanodiscus minutus	58.9	2.84
Stephanodiscus sp.	114.2	5.50
Stephanodiscus subtilis	25.8	1.24
Stephanodiscus tenuis	25.8	1.24
Surirella angusta	3.7	0.18
Synedra delicatissima v. angustissima	7.4	0.35
Synedra filiformis	128.9	6.21
Synedra minuscula	3.7	0.18
Synedra rumpens	3.7	0.18
Synedra tenera	3.7	0.18
Tabellaria fenestrata v. intermedia	346.2	16.67
Total	2077.0	100.0

Entrainment for February 1975, continued.

26 FEB 75 I6 0745

Number of forms = 52
Temperature (C) = 4.4

Diversity = 4.39
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphipleura pellucida	14.7	0.34
Amphora ovalis v. constricta	14.7	0.34
Amphora ovalis v. pediculus	7.4	0.17
Asterionella formosa	338.8	7.76
Cryptomonas sp.	14.7	0.34
Cyclotella kuetzingiana	22.1	0.51
Cyclotella ocellata	58.9	1.35
Cyclotella stelligera	537.7	12.31
Cymatopleura solea	7.4	0.17
Diatoma tenue v. elongatum	184.1	4.22
Dinobryon divergens	7.4	0.17
Flagellates	73.7	1.69
Fragilaria construens v. minuta	7.4	0.17
Fragilaria crotonensis	110.5	2.53
Fragilaria intermedia	331.4	7.59
Gloeocystis vesiculosa	73.7	1.69
Green filament, unknown	7.4	0.17
Melosira islandica	22.1	0.51
Melosira italica	125.2	2.87
Melosira varians	7.4	0.17
Navicula costulata	7.4	0.17
Navicula decussis	22.1	0.51
Navicula hambergii	7.4	0.17
Navicula latens	7.4	0.17
Navicula sp.	29.5	0.67
Neidium dubium	7.4	0.17
Nitzschia acicularis	139.9	3.20
Nitzschia bacata	51.6	1.18
Nitzschia confinis	117.8	2.70
Nitzschia dissipata	29.5	0.67
Nitzschia spiculoides	7.4	0.17
Nitzschia sp.	7.4	0.17
Nitzschia sp. #1	7.4	0.17
Nitzschia sp. #2	7.4	0.17
Oscillatoria limnetica	7.4	0.17
Oscillatoria sp.	7.4	0.17
Rhizosolenia eriensis	7.4	0.17
Rhizosolenia gracilis	14.7	0.34
Rhizosolenia sp.	14.7	0.34
Stephanodiscus alpinus	235.7	5.40
Stephanodiscus binderanus	81.0	1.85
Stephanodiscus hantzschii	22.1	0.51
Stephanodiscus minutus	184.1	4.22
Stephanodiscus sp.	324.1	7.42
Stephanodiscus subtilis	14.7	0.34
Stephanodiscus tenuis	147.3	3.37
Surirella angusta	7.4	0.17
Synedra delicatissima v. angustissima	7.4	0.17
Synedra filiformis	169.4	3.88
Synedra sp.	7.4	0.17
Synedra ulna v. chaseana	7.4	0.17
Tabellaria fenestrata v. intermedia	692.3	15.85
Total	4367.5	100.0

Entrainment for February 1975, continued.

26 FEB 75 D 0745

Number of forms = 52
Temperature (C) = 5.5

Diversity = 4.34
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes sp.	3.7	0.10	Nitzschia acicularis	84.7	2.27
Amphipleura pellucida	3.7	0.10	Nitzschia acuta	7.4	0.20
Amphora ovalis v. pediculus	7.4	0.20	Nitzschia bacata	22.1	0.59
Anacystis incerta	51.6	1.38	Nitzschia confinis	95.7	2.57
Asterionella formosa	232.0	6.23	Nitzschia dissipata	7.4	0.20
Centric diatom, unknown	229.3	6.13	Nitzschia kuetzingiana	11.0	0.30
Closteriopsis longissima	3.7	0.10	Nitzschia sp.	18.4	0.49
Cosmarium sp.	3.7	0.10	Nitzschia sp. #1	7.4	0.20
Cryptomonas sp.	36.8	0.99	Nitzschia sp. #2	18.4	0.49
Cyclotella cryptica	3.7	0.10	Oscillatoria limnetica	7.4	0.20
Cyclotella michiganiana	7.4	0.20	Oscillatoria sp.	14.7	0.40
Cyclotella ocellata	25.8	0.69	Rhizosolenia gracilis	14.7	0.40
Cyclotella stelligera	202.5	5.44	Scenedesmus acutiformis	14.7	0.40
Cymbella sp.	11.0	0.30	Schizothrix friesii	11.0	0.30
Cymbella subventricosa	7.4	0.20	Stephanodiscus alpinus	73.7	1.98
Diatoma tenue v. elongatum	143.6	3.86	Stephanodiscus astraea	7.4	0.20
Dinoflagellates	7.4	0.20	Stephanodiscus hantzschii	3.7	0.10
Flagellates	195.2	5.24	Stephanodiscus minutus	99.4	2.67
Fragilaria capucina	25.8	0.69	Stephanodiscus subtilis	7.4	0.20
Fragilaria crotonensis	371.9	9.99	Stephanodiscus tenuis	88.4	2.37
Glenodinium sp.	3.7	0.10	Synedra delicatissima v. angustissima	14.7	0.40
Gomphosphaeria lacustris	405.1	10.88	Synedra filiformis	176.8	4.75
Green coccoid, unknown	55.2	1.48	Synedra sp.	25.8	0.69
Melosira islandica	18.4	0.49	Synedra ulna v. chaseana	7.4	0.20
Melosira italica	88.4	2.37	Tabellaria fenestrata v. intermedia	692.3	18.60
Navicula sp.	18.4	0.49	Ulothrix sp.	29.5	0.79
			Total	3723.1	100.0

Entrainment for February 1975, continued.

26 FEB 75 I5 1230

Number of forms = 45
Temperature (C) = 5.0

Diversity = 4.19
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	7.4	0.17	Nitzschia acicularis	73.7	1.67
Achnanthes sp.	7.4	0.17	Nitzschia acuta	29.5	0.67
Amphipleura pellucida	14.7	0.33	Nitzschia bacata	29.5	0.67
Amphora ovalis v. pediculus	7.4	0.17	Nitzschia confinis	95.7	2.17
Amphora sp.	7.4	0.17	Nitzschia sp.	14.7	0.33
Asterionella formosa	324.1	7.33	Nitzschia sp. #1	14.7	0.33
Caloneis sp.	7.4	0.17	Nitzschia sp. #2	14.7	0.33
Cyclotella kuetzingiana	22.1	0.50	Oscillatoria limnetica	22.1	0.50
Cyclotella michiganiana	14.7	0.33	Oscillatoria sp.	29.5	0.67
Cyclotella ocellata	51.6	1.17	Stephanodiscus alpinus	213.6	4.83
Cyclotella sp.	29.5	0.67	Stephanodiscus binderanus	103.1	2.33
Cyclotella stelligera	346.2	7.83	Stephanodiscus hantzschii	29.5	0.67
Diatoma tenue v. elongatum	213.6	4.83	Stephanodiscus minutus	162.0	3.67
Dinoflagellates	7.4	0.17	Stephanodiscus sp.	464.0	10.50
Flagellates	51.6	1.17	Stephanodiscus subtilis	7.4	0.17
Fragilaria crotonensis	353.5	8.00	Stephanodiscus tenuis	29.5	0.67
Fragilaria intermedia	302.0	6.83	Synedra delicatissima v. angustissima	29.5	0.67
Fragilaria pinnata	7.4	0.17	Synedra filiformis	257.8	5.83
Glenodinium sp.	7.4	0.17	Synedra ostenfeldii	7.4	0.17
Gloeocystis sp.	22.1	0.50	Synedra sp.	14.7	0.33
Green filament, unknown	7.4	0.17	Synedra tenera	7.4	0.17
Melosira italica	66.3	1.50	Tabellaria fenestrata v. intermedia	861.7	19.50
Navicula sp.	29.5	0.67			
			Total	4419.1	100.0

Entrainment for February 1975, continued.

26 FEB 75 I6 1230

Number of forms = 63
Temperature(C) = 5.0

Diversity = 4.45
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes sp.	7.4	0.25
Amphipleura pellucida	7.4	0.25
Amphiprora ornata	3.7	0.13
Amphora calumetica	7.4	0.25
Amphora ovalis v. pediculus	3.7	0.13
Amphora sibirica	3.7	0.13
Amphora subcostulata	3.7	0.13
Ankistrodesmus falcatus	3.7	0.13
Asterionella formosa	209.9	7.24
Cosmarium #1	3.7	0.13
Cryptomonas sp.	3.7	0.13
Cyclotella kuetzingiana v planetophora	3.7	0.13
Cyclotella kuetzingiana	3.7	0.13
Cyclotella ocellata	58.9	2.03
Cyclotella sp.	29.5	1.02
Cyclotella stelligera	265.1	9.15
Cymatopleura solea v. apiculata	3.7	0.13
Diatoma tenue v. elongatum	114.2	3.94
Diatoma tenue v. pachycephalum	7.4	0.25
Euglena sp.	7.4	0.25
Eunotia flexuosa	3.7	0.13
Flagellates	29.5	1.02
Fragilaria crotonensis	202.5	6.99
Fragilaria intermedia	44.2	1.52
Gomphosphaeria sp.	368.3	12.71
Green filament, unknown	11.0	0.38
Melosira islandica	14.7	0.51
Melosira italica	47.9	1.65
Navicula latens	3.7	0.13
Navicula sp.	7.4	0.25
Navicula stroemii	3.7	0.13
Nitzschia acicularis	40.5	1.40
Nitzschia amphibia	3.7	0.13
Nitzschia bacata	22.1	0.76
Nitzschia confinis	55.2	1.91
Nitzschia dissipata	11.0	0.38
Nitzschia kuetzingiana	11.0	0.38
Nitzschia palea	3.7	0.13
Nitzschia sp.	18.4	0.64
Nitzschia sp. #12	3.7	0.13
Nitzschia sp. #1	3.7	0.13
Nitzschia sp. #2	14.7	0.51
Oscillatoria limnetica	7.4	0.25
Oscillatoria sp.	14.7	0.51
Rhizosolenia eriensis	3.7	0.13
Rhizosolenia gracilis	14.7	0.51
Stauroneis acutiuscula	3.7	0.13
Stephanodiscus alpinus	99.4	3.43
Stephanodiscus binderanus	36.8	1.27
Stephanodiscus hantzschii	7.4	0.25
Stephanodiscus minutus	132.6	4.57
Stephanodiscus sp.	383.0	13.21
Stephanodiscus subtilis	14.7	0.51
Stephanodiscus tenuis	33.1	1.14
Surirella angusta	7.4	0.25
Synedra delicatissima v. angustissima	22.1	0.76
Synedra filiformis	110.5	3.81
Synedra minuscula	3.7	0.13
Synedra ostenfeldii	7.4	0.25
Synedra sp.	18.4	0.64
Synedra ulna v. chaseana	3.7	0.13
Tabellaria fenestrata v. intermedia	294.6	10.17
Tabellaria flocculosa	3.7	0.13
Total	2898.2	100.0

Entrainment for February 1975, continued.

26 FEB 75 D 1230

Number of forms = 45
Temperature(C) = 6.2

Diversity = 4.40
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	3.7	0.17	Navicula latens	3.7	0.17
Asterionella formosa	125.2	5.88	Navicula sp.	7.4	0.35
Chroococcus dispersus	7.4	0.35	Nitzschia acicularis	29.5	1.38
Cryptomonas sp.	7.4	0.35	Nitzschia confinis	40.5	1.90
Cyclotella kuetzingiana	7.4	0.35	Nitzschia dissipata	7.4	0.35
Cyclotella michiganiana	11.0	0.52	Nitzschia spiculoides	3.7	0.17
Cyclotella ocellata	47.9	2.25	Nitzschia sp.	7.4	0.35
Cyclotella sp.	11.0	0.52	Nitzschia sp. #2	18.4	0.86
Cyclotella stelligera	143.6	6.75	Oscillatoria limnetica	11.0	0.52
Diatoma tenue v. elongatum	117.8	5.54	Stephanodiscus alpinus	70.0	3.29
Dinoflagellates	3.7	0.17	Stephanodiscus binderanus	70.0	3.29
Flagellates	36.8	1.73	Stephanodiscus hantzschii	14.7	0.69
Fragilaria crotonensis	283.6	13.32	Stephanodiscus minutus	73.7	3.46
Fragilaria intermedia	209.9	9.86	Stephanodiscus sp.	224.6	10.55
Gloeocystis planctonica	14.7	0.69	Stephanodiscus subtilis	3.7	0.17
Gloeocystis vesiculosa	110.5	5.19	Stephanodiscus tenuis	70.0	3.29
Gomphonema olivaceoides	3.7	0.17	Synedra amphicephala	3.7	0.17
Gomphonema sp.	3.7	0.17	Synedra delicatissima v. angustissima	14.7	0.69
Green filament, unknown	3.7	0.17	Synedra filiformis	95.7	4.50
Melosira italica	88.4	4.15	Synedra sp.	3.7	0.17
Navicula anglica v. signata	3.7	0.17	Synedra tenera	3.7	0.17
Navicula gastrum v. signata	3.7	0.17	Tabellaria fenestrata v. intermedia	99.9	4.69
Navicula hambergii	3.7	0.17			
			Total	2129.0	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for March 1975.

11 MAR 75 I5 2015

Number of forms = 59
Temperature(C) = 6.0

Diversity = 4.23
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	7.4	0.18	Nitzschia bacata	11.0	0.26
Ankistrodesmus sp.#1	7.4	0.18	Nitzschia confinis	14.7	0.35
Asterionella formosa	364.6	8.68	Nitzschia dissipata	3.7	0.09
Centric diatom, unknown	419.8	9.99	Nitzschia palea	7.4	0.18
Chromulina #1	3.7	0.09	Nitzschia spiculoides	3.7	0.09
Chromulina parvula	18.4	0.44	Nitzschia sp.	3.7	0.09
Chroococcus dispersus	3.7	0.09	Nitzschia sp. #1	7.4	0.18
Cosmarium #1	3.7	0.09	Nitzschia sp. #2	3.7	0.09
Cryptomonas sp.	22.1	0.53	Oscillatoria limnetica	29.5	0.70
Cyclotella ocellata	18.4	0.44	Oscillatoria sp.	14.7	0.35
Cyclotella stelligera	279.9	6.66	Rhizosolenia eriensis	7.4	0.18
Cymbella subventricosa	7.4	0.18	Rhizosolenia gracilis	25.8	0.61
Diatoma tenue v. elongatum	151.0	3.59	Scenedesmus bicellularis	7.4	0.18
Diatoma vulgare v. breve	3.7	0.09	Scenedesmus sp.	14.7	0.35
Dinobryon divergens	11.0	0.26	Stephanodiscus alpinus	70.0	1.67
Dinoflagellates	3.7	0.09	Stephanodiscus astraea	3.7	0.09
Flagellate b	14.7	0.35	Stephanodiscus hantzschii	14.7	0.35
Flagellates	364.6	8.68	Stephanodiscus minutus	114.2	2.72
Fragilaria capucina	92.1	2.19	Stephanodiscus sp.	125.2	2.98
Fragilaria crotonensis	232.0	5.52	Stephanodiscus subtilis	3.7	0.09
Fragilaria intermedia	3.7	0.09	Stephanodiscus tenuis	114.2	2.72
Glenodinium sp.	3.7	0.09	Synedra delicatissima v. angustissima	25.8	0.61
Gloeocystis sp.	7.4	0.18	Synedra filiformis	180.4	4.29
Gomphosphaeria lacustris	441.9	10.52	Synedra minuscula	3.7	0.09
Green coccoid, unknown	29.5	0.70	Synedra pulchella	3.7	0.09
Melosira islandica	22.1	0.53	Synedra ulna	3.7	0.09
Melosira italica	47.9	1.14	Tabellaria fenestrata v. intermedia	729.2	17.35
Navicula simplex	3.7	0.09	Tetraedron sp.	3.7	0.09
Navicula sp.	3.7	0.09	Ulothrix sp.	36.8	0.88
Nitzschia acicularis	22.1	0.53			
			Total	4201.8	100.0

Entrainment for March 1975, continued.

11 MAR 75 I6 2015

Number of forms = 50
Temperature(C) = 6.0

Diversity = 4.42
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes minutissima	3.7	0.14	Nitzschia acicularis	36.8	1.37
Ankistrodesmus falcatus	7.4	0.27	Nitzschia acuta	3.7	0.14
Asterionella formosa	125.2	4.66	Nitzschia bacata	3.7	0.14
Centric diatom, unknown	272.5	10.14	Nitzschia confinis	7.4	0.27
Cryptomonas sp.	18.4	0.68	Nitzschia dissipata	18.4	0.68
Cyclotella michiganiana	3.7	0.14	Nitzschia sp. #1	3.7	0.14
Cyclotella ocellata	18.4	0.68	Oscillatoria limnetica	18.4	0.68
Cyclotella sp.	3.7	0.14	Oscillatoria sp.	3.7	0.14
Cyclotella stelligera	246.7	9.18	Rhizosolenia eriensis	22.1	0.82
Diatoma tenue v. elongatum	81.0	3.01	Rhizosolenia gracilis	18.4	0.68
Dinobryon sp.	3.7	0.14	Rhizosolenia sp.	14.7	0.55
Dinoflagellates	7.4	0.27	Scenedesmus bicellularis	14.7	0.55
Flagellates	217.3	8.08	Scenedesmus sp.	14.7	0.55
Fragilaria capucina	44.2	1.64	Stephanodiscus alpinus	92.1	3.42
Fragilaria crotonensis	128.9	4.79	Stephanodiscus minutus	88.4	3.29
Fragilaria intermedia	88.4	3.29	Stephanodiscus sp.	276.2	10.27
Gloeocystis sp.	14.7	0.55	Stephanodiscus subtilis	14.7	0.55
Green coccoid, unknown	7.4	0.27	Stephanodiscus tenuis	92.1	3.42
Melosira granulata	18.4	0.68	Surirella angusta	3.7	0.14
Melosira italica	73.7	2.74	Synedra delicatissima v. angustissima	11.0	0.41
Melosira varians	7.4	0.27	Synedra filiformis	117.8	4.38
Navicula decussis	3.7	0.14	Synedra ulna v. chaseana	3.7	0.14
Navicula radiosa v. tenella	3.7	0.14	Tabellaria fenestrata v. intermedia	357.2	13.29
Navicula sp.	3.7	0.14	Tabellaria flocculosa	25.8	0.96
Navicula tripunctata	3.7	0.14	Ulothrix sp.	18.4	0.68
			Total	2688.3	100.0

Entrainment for March 1975, continued.

11 MAR 75 D 2015

Number of forms = 41
Temperature(C) = 9.1

Diversity = 3.98
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	221.0	3.68
Ankistrodesmus falcatus	22.1	0.37
Ankistrodesmus sp.#1	14.7	0.25
Asterionella formosa	279.9	4.66
Centric diatom, unknown	110.5	1.84
Cocconeis diminuta	7.4	0.12
Cyclotella michiganiana	7.4	0.12
Cyclotella ocellata	36.8	0.61
Cyclotella stelligera	405.1	6.75
Diatoma tenue v. elongatum	169.4	2.82
Dinobryon divergens	58.9	0.98
Flagellates	567.1	9.45
Fragilaria crotonensis	14.7	0.25
Fragilaria intermedia	559.8	9.33
Gloeocystis sp.	110.5	1.84
Gomphosphaeria lacustris	1473.0	24.54
Green coccoid, unknown	139.9	2.33
Melosira italica	7.4	0.12
Navicula cryptocephala	7.4	0.12
Navicula decussis	7.4	0.12
Navicula menisculus v. upsaliensis	7.4	0.12
Navicula simplex	7.4	0.12
Nitzschia acicularis	22.1	0.37
Nitzschia acuta	7.4	0.12
Nitzschia confinis	22.1	0.37
Oscillatoria limnetica	191.5	3.19
Rhizosolenia gracilis	29.5	0.49
Scenedesmus bicellularis	14.7	0.25
Stephanodiscus alpinus	58.9	0.98
Stephanodiscus hantzschii	36.8	0.61
Stephanodiscus minutus	162.0	2.70
Stephanodiscus sp.	162.0	2.70
Stephanodiscus subtilis	22.1	0.37
Stephanodiscus tenuis	184.1	3.07
Stephanodiscus transilvanicus	7.4	0.12
Synedra delicatissima v. angustissima	7.4	0.12
Synedra filiformis	154.7	2.58
Synedra sp.	7.4	0.12
Synedra ulna v. chaseana	7.4	0.12
Tabellaria fenestrata v. intermedia	611.3	10.18
Ulothrix sp.	58.9	0.98
Total	6002.6	100.0

Entrainment for March 1975, continued.

12 MAR 75 I5 0550

Number of forms = 50
Temperature(C) = 6.4

Diversity = 4.32
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	3.7	0.15	Nitzschia confinis	22.1	0.88
Ankistrodesmus sp.#1	7.4	0.29	Nitzschia dissipata	3.7	0.15
Asterionella formosa	224.6	8.92	Nitzschia kuetzingiana	3.7	0.15
Centric diatom, unknown	228.3	9.06	Nitzschia sp.	3.7	0.15
Chromulina #2	3.7	0.15	Nitzschia sp. #2	7.4	0.29
Cryptomonas sp.	3.7	0.15	Oscillatoria limnetica	58.9	2.34
Cyclotella michiganiana	14.7	0.58	Oscillatoria sp.	18.4	0.73
Cyclotella ocellata	18.4	0.73	Rhizosolenia eriensis	25.8	1.02
Cyclotella stelligera	187.8	7.46	Rhizosolenia gracilis	33.1	1.32
Diatoma tenue v. elongatum	99.4	3.95	Scenedesmus bicellularis	14.7	0.58
Dinoflagellates	14.7	0.58	Stephanodiscus alpinus	33.1	1.32
Flagellate b	3.7	0.15	Stephanodiscus hantzschii	3.7	0.15
Flagellates	316.7	12.57	Stephanodiscus minutus	70.0	2.78
Fragilaria capucina	3.7	0.15	Stephanodiscus sp.	162.0	6.43
Fragilaria crotonensis	158.4	6.29	Stephanodiscus subtilis	7.4	0.29
Glenodinium sp.	3.7	0.15	Stephanodiscus tenuis	73.7	2.92
Gloeocystis sp.	11.0	0.44	Stephanodiscus transilvanicus	3.7	0.15
Green coccoid, unknown	22.1	0.88	Synedra delicatissima v. angustissima	7.4	0.29
Green filament, unknown	18.4	0.73	Synedra demerarae	3.7	0.15
Melosira islandica	7.4	0.29	Synedra filiformis	103.1	4.09
Melosira italica	18.4	0.73	Synedra ostenfeldii	7.4	0.29
Navicula menisculus v. upsaliensis	3.7	0.15	Synedra sp.	14.7	0.58
Navicula pupula	3.7	0.15	Synedra tenera	3.7	0.15
Navicula radiosa v.#2	3.7	0.15	Tabellaria fenestrata v. intermedia	357.2	14.18
Nitzschia acicularis	18.4	0.73	Ulothrix sp.	77.3	3.07
			Total	2518.9	100.0

Entrainment for March 1975, continued.

12 MAR 75 I6 0550

Number of forms = 51
Temperature (C) = 6.4

Diversity = 4.28
Counted by: D.P.

Taxon	Cells/ml	Percent
Achnanthes lanceolata v. elliptica	3.7	0.14
Achnanthes sp.	3.7	0.14
Ankistrodesmus falcatus	11.0	0.43
Asterionella formosa	128.9	5.07
Centric diatom, unknown	250.4	9.84
Cyclotella atomus	3.7	0.14
Cyclotella kuetzingiana	3.7	0.14
Cyclotella michiganiana	14.7	0.58
Cyclotella ocellata	22.1	0.87
Cyclotella stelligera	254.1	9.99
Diatoma ehrenbergii	3.7	0.14
Diatoma tenue v. elongatum	92.1	3.62
Dinobryon divergens	3.7	0.14
Dinoflagellates	11.0	0.43
Euglena sp.	3.7	0.14
Flagellates	198.9	7.81
Fragilaria crotonensis	147.3	5.79
Fragilaria intermedia	66.3	2.60
Glenodinium sp.	3.7	0.14
Gloeocystis sp.	3.7	0.14
Green coccoid, unknown	22.1	0.87
Melosira granulata	14.7	0.58
Melosira islandica	22.1	0.87
Melosira italica	62.6	2.46
Mougeotia sp.	14.7	0.58
Navicula simplex	3.7	0.14
Navicula tripunctata	3.7	0.14
Nitzschia acicularis	3.7	0.14
Nitzschia bacata	11.0	0.43
Nitzschia confinis	14.7	0.58
Nitzschia paleacea	3.7	0.14
Nitzschia sp.	3.7	0.14
Nitzschia sp. #1	3.7	0.14
Nitzschia sp. #2	3.7	0.14
Oscillatoria limnetica	33.1	1.30
Oscillatoria sp.	22.1	0.87
Rhizosolenia eriensis	11.0	0.43
Rhizosolenia gracilis	70.0	2.75
Rhizosolenia sp.	18.4	0.72
Schizothrix friesii	3.7	0.14
Stephanodiscus alpinus	33.1	1.30
Stephanodiscus hantzschii	7.4	0.29
Stephanodiscus minutus	114.2	4.49
Stephanodiscus sp.	29.5	1.16
Stephanodiscus subtilis	7.4	0.29
Stephanodiscus tenuis	103.1	4.05
Synedra delicatissima v. angustissima	14.7	0.58
Synedra filiformis	173.1	6.80
Synedra ulna	3.7	0.14
Synedra vaucheriae v. truncata	3.7	0.14
Tabellaria fenestrata v. intermedia	478.7	18.81
Total	2544.7	100.0

Entrainment for March 1975, continued.

12 MAR 75 D 0550

Number of forms = 50
Temperature(C) = 8.8

Diversity = 4.34
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus sp.#1	7.4	0.17	Nitzschia confinis	22.1	0.50
Asterionella formosa	287.2	6.55	Nitzschia dissipata	7.4	0.17
Centric diatom, unknown	589.2	13.45	Nitzschia kuetzingiana	7.4	0.17
Coelosphaerium sp.	117.8	2.69	Nitzschia longissima v. reversa	7.4	0.17
Cryptomonas sp.	29.5	0.67	Nitzschia palea	7.4	0.17
Cyclotella kuetzingiana	7.4	0.17	Nitzschia sp. #2	7.4	0.17
Cyclotella michiganiana	14.7	0.34	Oscillatoria limnetica	29.5	0.67
Cyclotella ocellata	103.1	2.35	Oscillatoria sp.	22.1	0.50
Cyclotella sp.	14.7	0.34	Peridinium sp.	7.4	0.17
Cyclotella stelligera	360.9	8.24	Rhizosolenia gracilis	14.7	0.34
Cymatopleura solea v. apiculata	7.4	0.17	Rhizosolenia sp.	14.7	0.34
Diatoma tenue v. elongatum	206.2	4.71	Scenedesmus sp.	14.7	0.34
Dinoflagellates	14.7	0.34	Stephanodiscus alpinus	132.6	3.03
Flagellates	36.8	0.84	Stephanodiscus binderanus	73.7	1.68
Fragilaria crotonensis	338.8	7.73	Stephanodiscus hantzschii	7.4	0.17
Glenodinium sp.	36.8	0.84	Stephanodiscus minutus	139.9	3.19
Gloeocystis sp.	14.7	0.34	Stephanodiscus sp.	397.7	9.08
Melosira islandica	88.4	2.02	Stephanodiscus tenuis	22.1	0.50
Melosira italica	81.0	1.85	Synedra delicatissima v. angustissima	14.7	0.34
Melosira varians	14.7	0.34	Synedra filiformis	272.5	6.22
Mougeotia sp.	29.5	0.67	Synedra sp.	14.7	0.34
Navicula cryptocephaloides	7.4	0.17	Synedra ulna v. chaseana	7.4	0.17
Navicula simplex	7.4	0.17	Tabellaria fenestrata v. intermedia	596.6	13.61
Nitzschia acicularis	29.5	0.67	Tabellaria flocculosa	14.7	0.34
Nitzschia bacata	22.1	0.50	Ulothrix sp.	58.9	1.34
			Total	4382.3	100.0

Entrainment for March 1975, continued.

12 MAR 75 I5 1220

Number of forms = 49
Temperature(C) = 5.7

Diversity = 4.28
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.17	Navicula decussis	3.7	0.17
Asterionella formosa	132.6	6.21	Navicula simplex	3.7	0.17
Centric diatom, unknown	287.2	13.45	Navicula sp.	3.7	0.17
Chroococcus dispersus	7.4	0.34	Nitzschia acicularis	36.8	1.72
Cryptomonas sp.	3.7	0.17	Nitzschia dissipata	3.7	0.17
Cyclotella kuetzingiana	3.7	0.17	Nitzschia paleacea	3.7	0.17
Cyclotella michiganiana	3.7	0.17	Nitzschia sp. #1	3.7	0.17
Cyclotella ocellata	33.1	1.55	Nitzschia sp. #2	7.4	0.34
Cyclotella sp.	3.7	0.17	Oscillatoria limnetica	11.0	0.52
Cyclotella stelligera	221.0	10.34	Oscillatoria sp.	3.7	0.17
Cymbella microcephala	3.7	0.17	Peridinium sp.	3.7	0.17
Diatoma tenue v. elongatum	103.1	4.83	Rhizosolenia gracilis	36.8	1.72
Dinoflagellates	25.8	1.21	Rhizosolenia sp.	36.8	1.72
Euglena sp.	14.7	0.69	Scenedesmus bicellularis	25.8	1.21
Flagellates	92.1	4.31	Stephanodiscus alpinus	40.5	1.90
Fragilaria capucina	3.7	0.17	Stephanodiscus hantzschii	3.7	0.17
Fragilaria crotonensis	22.1	1.03	Stephanodiscus minutus	70.0	3.28
Fragilaria intermedia	18.4	0.86	Stephanodiscus sp.	279.9	13.10
Glenodinium sp.	7.4	0.34	Stephanodiscus tenuis	66.3	3.10
Gloeocystis planctonica	14.7	0.69	Synedra delicatissima v. angustissima	22.1	1.03
Gloeocystis sp.	36.8	1.72	Synedra filiformis	117.8	5.52
Gomphonema sp.	3.7	0.17	Synedra sp.	3.7	0.17
Green coccoid, unknown	3.7	0.17	Synedra ulna v. chaseana	3.7	0.17
Melosira granulata	7.4	0.34	Tabellaria fenestrata v. intermedia	265.1	12.41
Melosira italica	22.1	1.03			
			Total	2135.9	100.0

Entrainment for March 1975, continued.

12 MAR 75 I6 1220

Number of forms = 56
Temperature(C) = 5.7

Diversity = 4.23
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.13	Nitzschia acicularis	55.2	1.91
Asterionella formosa	206.2	7.13	Nitzschia bacata	11.0	0.38
Centric diatom, unknown	268.8	9.30	Nitzschia confinis	3.7	0.13
Cryptomonas sp.	11.0	0.38	Nitzschia palea	3.7	0.13
Cyclotella kuetzingiana v planetophora	3.7	0.13	Nitzschia spiculoides	3.7	0.13
Cyclotella kuetzingiana	3.7	0.13	Nitzschia sp.	3.7	0.13
Cyclotella michiganiana	3.7	0.13	Nitzschia sp. #18	3.7	0.13
Cyclotella ocellata	47.9	1.66	Oscillatoria limnetica	29.5	1.02
Cyclotella sp.	3.7	0.13	Oscillatoria sp.	7.4	0.25
Cyclotella stelligera	298.3	10.32	Rhizosolenia eriensis	7.4	0.25
Diatoma ehrenbergii	3.7	0.13	Rhizosolenia gracilis	33.1	1.15
Diatoma tenue v. elongatum	62.6	2.17	Rhizosolenia sp.	22.1	0.76
Dinobryon divergens	7.4	0.25	Scenedesmus quadricauda v. longispina	14.7	0.51
Dinoflagellates	11.0	0.38	Stephanodiscus alpinus	51.6	1.78
Euglena sp.	3.7	0.13	Stephanodiscus binderanus	29.5	1.02
Flagellates	117.8	4.08	Stephanodiscus hantzschii	14.7	0.51
Fragilaria capucina	3.7	0.13	Stephanodiscus minutus	151.0	5.22
Fragilaria crotonensis	338.8	11.72	Stephanodiscus sp.	268.8	9.30
Fragilaria intermedia	7.4	0.25	Stephanodiscus subtilis	11.0	0.38
Glenodinium sp.	3.7	0.13	Stephanodiscus tenuis	51.6	1.78
Gloeocystis sp.	25.8	0.89	Synedra delicatissima v. angustissima	7.4	0.25
Green coccoid, unknown	3.7	0.13	Synedra filiformis	154.7	5.35
Melosira granulata	7.4	0.25	Synedra ostenfeldii	3.7	0.13
Melosira italica	44.2	1.53	Synedra sp.	3.7	0.13
Navicula latens	3.7	0.13	Synedra tenera	3.7	0.13
Navicula simplex	3.7	0.13	Synedra ulna	3.7	0.13
Navicula sp.	3.7	0.13	Tabellaria fenestrata v. intermedia	427.2	14.78
Navicula tripunctata	3.7	0.13	Tabellaria flocculosa	3.7	0.13
			Total	2890.8	100.0

Entrainment for March 1975, continued.

12 MAR 75 D 1220

Number of forms = 59
Temperature(C) = 9.0

Diversity = 4.59
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. constricta	3.7	0.14	Navicula sp.	7.4	0.28
Ankistrodesmus sp.#1	3.7	0.14	Nitzschia acicularis	25.8	0.97
Asterionella formosa	136.3	5.14	Nitzschia bacata	3.7	0.14
Blue-green unknown cells	44.2	1.67	Nitzschia confinis	14.7	0.56
Centric diatom, unknown	272.5	10.28	Nitzschia dissipata	11.0	0.42
Cocconeis placentula v. euglypta	3.7	0.14	Nitzschia kuetzingiana	7.4	0.28
Cosmarium #1	3.7	0.14	Nitzschia sp. #2	11.0	0.42
Cryptomonas sp.	14.7	0.56	Oocystis sp.	14.7	0.56
Cyclotella kuetzingiana	7.4	0.28	Oscillatoria limnetica	36.8	1.39
Cyclotella ocellata	33.1	1.25	Oscillatoria sp.	3.7	0.14
Cyclotella sp.	3.7	0.14	Rhizosolenia eriensis	3.7	0.14
Cyclotella stelligera	272.5	10.28	Rhizosolenia gracilis	55.2	2.08
Diatoma tenue v. elongatum	103.1	3.89	Rhizosolenia sp.	25.8	0.97
Dinobryon divergens	7.4	0.28	Scenedesmus bicellularis	7.4	0.28
Dinoflagellates	18.4	0.69	Stephanodiscus alpinus	51.6	1.94
Euglena sp.	3.7	0.14	Stephanodiscus astraea	3.7	0.14
Flagellates	95.7	3.61	Stephanodiscus binderanus	25.8	0.97
Fragilaria capucina	11.0	0.42	Stephanodiscus hantzschii	7.4	0.28
Fragilaria crotonensis	88.4	3.33	Stephanodiscus minutus	143.6	5.42
Fragilaria intermedia	70.0	2.64	Stephanodiscus sp.	298.3	11.25
Glenodinium sp.	25.8	0.97	Stephanodiscus subtilis	7.4	0.28
Gloeocystis sp.	11.0	0.42	Stephanodiscus tenuis	66.3	2.50
Green coccoid, unknown	3.7	0.14	Synedra delicatissima v. angustissima	25.8	0.97
Melosira granulata	7.4	0.28	Synedra filiformis	136.3	5.14
Melosira islandica	14.7	0.56	Synedra ostenfeldii	3.7	0.14
Melosira italica	77.3	2.92	Synedra sp.	3.7	0.14
Navicula cryptocephala v. veneta	3.7	0.14	Synedra tenera	3.7	0.14
Navicula lanceolata	3.7	0.14	Synedra ulna v. chaseana	3.7	0.14
Navicula latens	3.7	0.14	Tabellaria fenestrata v. intermedia	290.9	10.97
Navicula menisculus v. upsaliensis	3.7	0.14			
			Total	2651.5	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for April 1975.

15 APR 75 I5 2110

Number of forms = 54
Temperature(C) = 4.0

Diversity = 4.38
Counted by: D.B.

Taxon	Cells/ml	Percent
Amphora ovalis v. constricta	3.7	0.09
Anacystis incerta	147.3	3.70
Ankistrodesmus falcatus	7.4	0.19
Ankistrodesmus sp.#1	3.7	0.09
Asterionella formosa	125.2	3.15
Blue-green unknown cells	11.0	0.28
Centric diatom, unknown	147.3	3.70
Cryptomonas sp.	11.0	0.28
Cyclotella ocellata	3.7	0.09
Cyclotella stelligera	537.7	13.52
Diatoma tenue v. elongatum	70.0	1.76
Diatoma vulgare v. breve	3.7	0.09
Dinobryon divergens	25.8	0.65
Dinoflagellates	7.4	0.19
Flagellates	394.0	9.91
Fragilaria capucina	3.7	0.09
Fragilaria crotonensis	250.4	6.30
Fragilaria intermedia	14.7	0.37
Glenodinium sp.	22.1	0.56
Gloeocystis sp.	14.7	0.37
Gomphosphaeria lacustris	441.9	11.11
Kirchneriella sp.	3.7	0.09
Melosira granulata	14.7	0.37
Melosira islandica	92.1	2.31
Melosira italica	81.0	2.04
Navicula cryptocephala v. veneta	3.7	0.09
Navicula simplex	3.7	0.09
Navicula sp.	7.4	0.19
Nitzschia acicularis	3.7	0.09
Nitzschia bacata	3.7	0.09
Nitzschia confinis	11.0	0.28
Nitzschia dissipata	3.7	0.09
Nitzschia sp.	7.4	0.19
Nitzschia sp. #2	3.7	0.09
Oscillatoria limnetica	18.4	0.46
Rhizosolenia gracilis	92.1	2.31
Rhizosolenia sp.	3.7	0.09
Scenedesmus bicellularis	7.4	0.19
Scenedesmus sp.	14.7	0.37
Stephanodiscus alpinus	139.9	3.52
Stephanodiscus binderanus	73.7	1.85
Stephanodiscus hantzschii	36.8	0.93
Stephanodiscus minutus	327.8	8.24
Stephanodiscus niagarae	7.4	0.19
Stephanodiscus sp.	117.8	2.96
Stephanodiscus subtilis	44.2	1.11
Stephanodiscus tenuis	324.1	8.15
Synedra delicatissima v. angustissima	7.4	0.19
Synedra filiformis	162.0	4.07
Synedra ostenfeldii	7.4	0.19
Synedra sp.	7.4	0.19
Synedra ulna v. chaseana	3.7	0.09
Tabellaria fenestrata v. intermedia	84.7	2.13
Tabellaria flocculosa	11.0	0.28
Total	3977.2	100.0

Entrainment for April 1975, continued.

15 APR 75 D 2110

Number of forms = 49
Temperature(C) = 12.1

Diversity = 4.16
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	14.7	0.17	Navicula sp.	14.7	0.17
Asterionella formosa	390.4	4.54	Nitzschia acicularis	29.5	0.34
Centric diatom, unknown	206.2	2.40	Nitzschia bacata	7.4	0.09
Chromulina #1	7.4	0.09	Nitzschia confinis	14.7	0.17
Chromulina #2	7.4	0.09	Nitzschia dissipata	14.7	0.17
Cryptomonas sp.	58.9	0.68	Nitzschia sp.	7.4	0.09
Cyclotella comta	7.4	0.09	Nitzschia sp. #2	29.5	0.34
Cyclotella meneghiniana	7.4	0.09	Oscillatoria limnetica	22.1	0.26
Cyclotella michiganiana	7.4	0.09	Rhizosolenia gracilis	103.1	1.20
Cyclotella ocellata	22.1	0.26	Scenedesmus bicellularis	14.7	0.17
Cyclotella stelligera	1274.2	14.81	Stephanodiscus alpinus	559.8	6.51
Diatoma tenue v. elongatum	103.1	1.20	Stephanodiscus binderanus	147.3	1.71
Dinobryon divergens	66.3	0.77	Stephanodiscus hantzschii	162.0	1.88
Dinoflagellates	14.7	0.17	Stephanodiscus minutus	596.6	6.93
Flagellates	1450.9	16.87	Stephanodiscus sp.	279.9	3.25
Fragilaria capucina	279.9	3.25	Stephanodiscus subtilis	29.5	0.34
Fragilaria crotonensis	979.6	11.39	Stephanodiscus tenuis	522.9	6.08
Fragilaria intermedia	191.5	2.23	Surirella angusta	7.4	0.09
Glenodinium sp.	14.7	0.17	Synedra delicatissima v. angustissima	22.1	0.26
Gloeocystis sp.	7.4	0.09	Synedra filiformis	162.0	1.88
Green coccoid, unknown	95.7	1.11	Synedra ostenfeldii	7.4	0.09
Melosira granulata	7.4	0.09	Synedra sp.	14.7	0.17
Melosira islandica	235.7	2.74	Synedra ulna v. chaseana	7.4	0.09
Melosira italica	154.7	1.80	Tabellaria fenestrata v. intermedia	213.6	2.48
Navicula fracta	7.4	0.09			
			Total	8602.5	100.0

Entrainment for April 1975, continued.

16 APR 75 I5 0515

Number of forms = 46
Temperature(C) = 3.8

Diversity = 4.38
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	405.1	7.64
Ankistrodesmus falcatus	22.1	0.42
Ankistrodesmus sp.#1	44.2	0.83
Asterionella formosa	235.7	4.44
Centric diatom, unknown	103.1	1.94
Cosmarium #1	7.4	0.14
Cryptomonas sp.	51.6	0.97
Cyclotella ocellata	36.8	0.69
Cyclotella stelligera	861.7	16.25
Diatoma tenue	7.4	0.14
Diatoma tenue v. elongatum	51.6	0.97
Dinobryon divergens	51.6	0.97
Dinoflagellates	36.8	0.69
Flagellates	766.0	14.44
Fragilaria capucina	198.9	3.75
Fragilaria crotonensis	353.5	6.67
Fragilaria intermedia	58.9	1.11
Gloeocystis sp.	7.4	0.14
Green coccoid, unknown	73.7	1.39
Melosira granulata	29.5	0.56
Melosira islandica	95.7	1.81
Melosira italica	117.8	2.22
Navicula decussis	7.4	0.14
Navicula menisculus v. upsaliensis	7.4	0.14
Nitzschia acicularis	22.1	0.42
Nitzschia dissipata	7.4	0.14
Nitzschia sp. #2	7.4	0.14
Oscillatoria limnetica	51.6	0.97
Rhizosolenia gracilis	103.1	1.94
Scenedesmus bicellularis	44.2	0.83
Scenedesmus quadricauda	29.5	0.56
Stephanodiscus alpinus	162.0	3.06
Stephanodiscus binderanus	14.7	0.28
Stephanodiscus hantzschii	66.3	1.25
Stephanodiscus minutus	316.7	5.97
Stephanodiscus sp.	110.5	2.08
Stephanodiscus subtilis	29.5	0.56
Stephanodiscus tenuis	338.8	6.39
Synedra delicatissima v. angustissima	22.1	0.42
Synedra filiformis	169.4	3.19
Synedra minuscula	7.4	0.14
Synedra ostenfeldii	14.7	0.28
Synedra sp.	7.4	0.14
Synedra tenera	7.4	0.14
Synedra ulna v. chaseana	7.4	0.14
Tabellaria fenestrata v. intermedia	132.6	2.50
Total	5302.9	100.0

Entrainment for April 1975, continued.

16 APR 75 D 0515

Number of forms = 48
Temperature(C) = 10.1

Diversity = 4.15
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	14.7	0.33	Navicula viridula v. #2	7.4	0.16
Ankistrodesmus sp.	7.4	0.16	Nitzschia acicularis	22.1	0.49
Ankistrodesmus sp.#1	7.4	0.16	Nitzschia bacata	14.7	0.33
Asterionella formosa	132.6	2.93	Nitzschia confinis	7.4	0.16
Centric diatom, unknown	198.9	4.39	Nitzschia dissipata	7.4	0.16
Coccochloris sp.	29.5	0.65	Nitzschia kuetzingiana	7.4	0.16
Cryptomonas sp.	14.7	0.33	Nitzschia sp.	7.4	0.16
Cyclotella cryptica	7.4	0.16	Nitzschia sp. #2	7.4	0.16
Cyclotella michiganiana	7.4	0.16	Oscillatoria limnetica	14.7	0.33
Cyclotella ocellata	22.1	0.49	Rhizosolenia gracilis	110.5	2.44
Cyclotella stelligera	957.5	21.14	Scenedesmus bicellularis	29.5	0.65
Cymatopleura solea	7.4	0.16	Stephanodiscus alpinus	176.8	3.90
Diatoma tenue v. elongatum	22.1	0.49	Stephanodiscus astraea	7.4	0.16
Dinobryon divergens	14.7	0.33	Stephanodiscus binderanus	44.2	0.98
Dinoflagellates	29.5	0.65	Stephanodiscus hantzschii	88.4	1.95
Flagellates	272.5	6.02	Stephanodiscus minutus	478.7	10.57
Fragilaria crotonensis	309.3	6.83	Stephanodiscus sp.	191.5	4.23
Glenodinium sp.	7.4	0.16	Stephanodiscus subtilis	29.5	0.65
Green coccoid, unknown	14.7	0.33	Stephanodiscus tenuis	464.0	10.24
Melosira granulata	14.7	0.33	Synedra delicatissima v. angustissima	22.1	0.49
Melosira islandica	73.7	1.63	Synedra filiformis	221.0	4.88
Melosira italica	272.5	6.02	Synedra ulna	7.4	0.16
Navicula simplex	7.4	0.16	Tabellaria fenestrata v. intermedia	103.1	2.28
Navicula tripunctata	7.4	0.16	Thalassiosira pseudonana	7.4	0.16
			Total	4529.6	100.0

Entrainment for April 1975, continued.

16 APR 75 I5 1200

Number of forms = 49
Temperature (C) = 4.2

Diversity = 4.18
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	718.1	14.05
Ankistrodesmus falcatus	36.8	0.72
Ankistrodesmus sp. #3	11.0	0.22
Ankistrodesmus sp.#1	25.8	0.50
Asterionella formosa	158.4	3.10
Centric diatom, unknown	103.1	2.02
Cryptomonas sp.	33.1	0.65
Cyclotella cryptica	3.7	0.07
Cyclotella michiganiana	3.7	0.07
Cyclotella ocellata	18.4	0.36
Cyclotella stelligera	390.4	7.64
Diatoma tenue v. elongatum	70.0	1.37
Dinobryon divergens	29.5	0.58
Dinoflagellates	14.7	0.29
Flagellates	1009.0	19.74
Fragilaria capucina	81.0	1.59
Fragilaria crotonensis	379.3	7.42
Fragilaria intermedia	88.4	1.73
Glenodinium sp.	7.4	0.14
Gloeocystis sp.	7.4	0.14
Gomphonema sp.	3.7	0.07
Gomphonema tergestinum	3.7	0.07
Green coccoid, unknown	25.8	0.50
Melosira granulata	29.5	0.58
Melosira islandica	114.2	2.23
Melosira italica	176.8	3.46
Navicula radiosa v. tenella	3.7	0.07
Navicula simplex	3.7	0.07
Navicula viridula	3.7	0.07
Nitzschia acicularis	11.0	0.22
Nitzschia dissipata	11.0	0.22
Nitzschia sp.	11.0	0.22
Nitzschia sp. #2	3.7	0.07
Oscillatoria limnetica	29.5	0.58
Oscillatoria sp.	3.7	0.07
Rhizosolenia gracilis	128.9	2.52
Scenedesmus bicellularis	22.1	0.43
Stephanodiscus alpinus	158.4	3.10
Stephanodiscus astraea	11.0	0.22
Stephanodiscus binderanus	55.2	1.08
Stephanodiscus hantzschii	18.4	0.36
Stephanodiscus minutus	290.9	5.69
Stephanodiscus sp.	92.1	1.80
Stephanodiscus subtilis	7.4	0.14
Stephanodiscus tenuis	416.1	8.14
Synedra delicatissima v. angustissima	18.4	0.36
Synedra filiformis	184.1	3.60
Synedra ulna v. chaseana	3.7	0.07
Tabellaria fenestrata v. intermedia	81.0	1.59
Total	5111.4	100.0

Entrainment for April 1975, continued.

16 APR 75 D 1200

Number of forms = 44
Temperature (C) = 10.8

Diversity = 4.03
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes detha	3.7	0.14	Melosira italica	81.0	3.09
Anacystis incerta	110.5	4.21	Navicula capitata	3.7	0.14
Ankistrodesmus falcatus	11.0	0.42	Navicula simplex	3.7	0.14
Ankistrodesmus sp.#1	7.4	0.28	Nitzschia acicularis	11.0	0.42
Asterionella formosa	47.9	1.83	Nitzschia dissipata	3.7	0.14
Blue-green unknown cells	3.7	0.14	Nitzschia sp.	3.7	0.14
Centric diatom, unknown	51.6	1.97	Oscillatoria limnetica	25.8	0.98
Chroococcus dispersus	7.4	0.28	Rhizosolenia gracilis	81.0	3.09
Cryptomonas sp.	22.1	0.84	Scenedesmus bicellularis	36.8	1.40
Cyclotella atomus	14.7	0.56	Stephanodiscus alpinus	66.3	2.53
Cyclotella ocellata	22.1	0.84	Stephanodiscus binderanus	33.1	1.26
Cyclotella sp.	7.4	0.28	Stephanodiscus hantzschii	22.1	0.84
Cyclotella stelligera	313.0	11.94	Stephanodiscus minutus	221.0	8.43
Diatoma tenue v. elongatum	55.2	2.11	Stephanodiscus sp.	132.6	5.06
Dinoflagellates	18.4	0.70	Stephanodiscus subtilis	36.8	1.40
Euglena sp.	3.7	0.14	Stephanodiscus tenuis	254.1	9.69
Flagellates	677.6	25.84	Stephanodiscus transilvanicus	3.7	0.14
Fragilaria crotonensis	7.4	0.28	Synedra filiformis	88.4	3.37
Glenodinium sp.	3.7	0.14	Synedra sp.	3.7	0.14
Gloeocystis sp.	47.9	1.83	Synedra tenera	3.7	0.14
Green coccoid, unknown	3.7	0.14	Tabellaria fenestrata v. intermedia	40.5	1.54
Melosira islandica	22.1	0.84	Thalassiosira pseudonana	3.7	0.14
			Total	2622.0	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for May 1975.

12 MAY 75 D 2145

Number of forms = 54
Temperature (C) = 0.0

Diversity = 4.30
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes lanceolata v. elliptica	14.7	0.25
Anacystis incerta	810.2	13.53
Ankistrodesmus falcatus	29.5	0.49
Asterionella formosa	316.7	5.29
Centric diatom, unknown	125.2	2.09
Coccochloris sp.	14.7	0.25
Cryptomonas sp.	22.1	0.37
Cyclotella kuetzingiana	7.4	0.12
Cyclotella michiganiana	7.4	0.12
Cyclotella ocellata	7.4	0.12
Cyclotella stelligera	243.1	4.06
Diatoma tenue	7.4	0.12
Diatoma tenue v. elongatum	81.0	1.35
Dinoflagellates	7.4	0.12
Diploneis oculata	7.4	0.12
Echinosphaerella limnetica	7.4	0.12
Flagellates	324.1	5.41
Fragilaria capucina	184.1	3.08
Fragilaria crotonensis	626.0	10.46
Gloeocystis sp.	29.5	0.49
Melosira granulata	132.6	2.21
Melosira islandica	7.4	0.12
Melosira italica	132.6	2.21
Navicula cryptocephala v. intermedia	7.4	0.12
Navicula cryptocephala v. veneta	14.7	0.25
Navicula decussis	14.7	0.25
Navicula sp.	14.7	0.25
Nitzschia acicularis	22.1	0.37
Nitzschia bacata	22.1	0.37
Nitzschia confinis	7.4	0.12
Nitzschia dissipata	44.2	0.74
Nitzschia palea	7.4	0.12
Nitzschia spiculoides	7.4	0.12
Nitzschia sp. #1	7.4	0.12
Nitzschia sp. #2	7.4	0.12
Oscillatoria limnetica	14.7	0.25
Peridinium sp.	7.4	0.12
Rhizosolenia eriensis	29.5	0.49
Rhizosolenia gracilis	110.5	1.85
Scenedesmus sp.	14.7	0.25
Stephanodiscus alpinus	95.7	1.60
Stephanodiscus binderanus	125.2	2.09
Stephanodiscus hantzschii	51.6	0.86
Stephanodiscus minutus	243.1	4.06
Stephanodiscus niagarae	7.4	0.12
Stephanodiscus sp.	73.7	1.23
Stephanodiscus subtilis	7.4	0.12
Stephanodiscus tenuis	353.5	5.90
Stephanodiscus transilvanicus	14.7	0.25
Surirella angusta	7.4	0.12
Synedra delicatissima v. angustissima	95.7	1.60
Synedra filiformis	287.2	4.80
Tabellaria fenestrata v. intermedia	1082.7	18.08
Tabellaria quadrisepta	44.2	0.74
Total	5987.9	100.0

Entrainment for May 1975, continued.

14 MAY 75 I5 0400

Number of forms = 48
Temperature(C) = 7.0

Diversity = 2.77
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.7	0.07
Anacystis incerta	1317.8	55.17
Ankistrodesmus falcatus	18.2	0.76
Ankistrodesmus sp.#1	3.3	0.14
Asterionella formosa	72.9	3.05
Centric diatom, unknown	9.9	0.42
Coccochloris sp.	3.3	0.14
Crucigenia apiculata	6.6	0.28
Cryptomonas sp.	11.6	0.49
Cyclotella ocellata	1.7	0.07
Cyclotella stelligera	8.3	0.35
Diatoma tenue	1.7	0.07
Diatoma tenue v. elongatum	9.9	0.42
Dinobryon divergens	1.7	0.07
Dinoflagellates	3.3	0.14
Flagellates	205.6	8.61
Fragilaria capucina	26.5	1.11
Fragilaria crotonensis	117.7	4.93
Glenodinium sp.	1.7	0.07
Gloeocystis sp.	5.0	0.21
Green coccoid, unknown	23.2	0.97
Melosira islandica	9.9	0.42
Melosira italica	6.6	0.28
Mougeotia sp.	6.6	0.28
Navicula pupula	1.7	0.07
Nitzschia acicularis	1.7	0.07
Nitzschia bacata	3.3	0.14
Nitzschia dissipata	1.7	0.07
Nitzschia sp.	1.7	0.07
Nitzschia sp. #1	1.7	0.07
Nitzschia sp. #2	1.7	0.07
Oscillatoria limnetica	28.2	1.18
Oscillatoria sp.	1.7	0.07
Rhizosolenia eriensis	1.7	0.07
Rhizosolenia gracilis	33.2	1.39
Scenedesmus bicellularis	6.6	0.28
Stephanodiscus alpinus	3.3	0.14
Stephanodiscus binderanus	74.6	3.12
Stephanodiscus minutus	14.9	0.62
Stephanodiscus sp.	8.3	0.35
Stephanodiscus tenuis	41.4	1.73
Surirella angusta	3.3	0.14
Synedra delicatissima v. angustissima	5.0	0.21
Synedra filiformis	39.8	1.67
Synedra sp.	1.7	0.07
Tabellaria fenestrata v. intermedia	222.1	9.30
Tabellaria flocculosa	5.0	0.21
Tabellaria quadrisepta	9.9	0.42
Total	2388.7	100.0

Entrainment for May 1975, continued.

14 MAY 75 D 0400

Number of forms = 46
Temperature(C) = 15.0

Diversity = 3.50
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphiprora ornata	7.4	0.11	Nitzschia bacata	7.4	0.11
Anacystis incerta	861.7	13.15	Nitzschia confinis	7.4	0.11
Ankistrodesmus falcatus	66.3	1.01	Nitzschia kuetzingiana	7.4	0.11
Ankistrodesmus sp.	7.4	0.11	Nitzschia spiculoides	7.4	0.11
Asterionella formosa	191.5	2.92	Oscillatoria limnetica	176.8	2.70
Centric diatom, unknown	7.4	0.11	Oscillatoria sp.	14.7	0.22
Coccochloris sp.	29.5	0.45	Rhizosolenia eriensis	14.7	0.22
Cosmarium sp.	7.4	0.11	Rhizosolenia gracilis	272.5	4.16
Cryptomonas sp.	29.5	0.45	Scenedesmus bicellularis	44.2	0.67
Cyclotella ocellata	7.4	0.11	Stauroneis acutiuscula	7.4	0.11
Cyclotella stelligera	73.7	1.12	Stephanodiscus alpinus	14.7	0.22
Diatoma tenue v. elongatum	14.7	0.22	Stephanodiscus binderanus	88.4	1.35
Dinobryon divergens	14.7	0.22	Stephanodiscus hantzschii	22.1	0.34
Dinoflagellates	29.5	0.45	Stephanodiscus minutus	81.0	1.24
Euglena sp.	7.4	0.11	Stephanodiscus sp.	7.4	0.11
Flagellates	714.4	10.90	Stephanodiscus tenuis	198.9	3.03
Fragilaria crotonensis	1060.6	16.18	Synedra delicatissima v. angustissima	22.1	0.34
Glenodinium sp.	7.4	0.11	Synedra filiformis	198.9	3.03
Green coccoid, unknown	22.1	0.34	Synedra sp.	14.7	0.22
Melosira islandica	66.3	1.01	Synedra tenera	7.4	0.11
Melosira italica	36.8	0.56	Tabellaria fenestrata v. intermedia	1973.9	30.11
Nitzschia acicularis	7.4	0.11	Tabellaria flocculosa	73.7	1.12
Nitzschia acuta	7.4	0.11	Tabellaria quadrisepta	14.7	0.22
			Total	6555.0	100.0

Entrainment for May 1975, continued.

13 MAY 75 I5 1115

Number of forms = 44
Temperature (C) = 7.0

Diversity = 3.92
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. constricta	7.4	0.13	Nitzschia acuta	14.7	0.26
Amphora ovalis v. pediculus	7.4	0.13	Nitzschia bacata	22.1	0.39
Anacystis incerta	810.2	14.47	Nitzschia confinis	7.4	0.13
Ankistrodesmus falcatus	7.4	0.13	Nitzschia sp.	29.5	0.53
Ankistrodesmus sp.#1	14.7	0.26	Oscillatoria limnetica	51.6	0.92
Asterionella formosa	257.8	4.61	Oscillatoria sp.	14.7	0.26
Centric diatom, unknown	14.7	0.26	Rhizosolenia eriensis	7.4	0.13
Coccochloris sp.	14.7	0.26	Rhizosolenia gracilis	81.0	1.45
Cryptomonas sp.	58.9	1.05	Scenedesmus bicellularis	44.2	0.79
Cyclotella ocellata	14.7	0.26	Spirogyra sp.	7.4	0.13
Cyclotella stelligera	147.3	2.63	Stephanodiscus alpinus	58.9	1.05
Diatoma tenue v. elongatum	14.7	0.26	Stephanodiscus binderanus	95.7	1.71
Diatoma vulgare	7.4	0.13	Stephanodiscus hantzschii	29.5	0.53
Flagellates	633.4	11.32	Stephanodiscus minutus	110.5	1.97
Fragilaria capucina	257.8	4.61	Stephanodiscus sp.	58.9	1.05
Fragilaria crotonensis	788.1	14.08	Stephanodiscus subtilis	7.4	0.13
Fragilaria intermedia	29.5	0.53	Stephanodiscus tenuis	257.8	4.61
Green coccoid, unknown	29.5	0.53	Synedra delicatissima v. angustissima	14.7	0.26
Melosira granulata	36.8	0.66	Synedra filiformis	147.3	2.63
Melosira islandica	44.2	0.79	Synedra ulna v. chaseana	22.1	0.39
Melosira italica	58.9	1.05	Tabellaria fenestrata v. intermedia	1178.4	21.05
Nitzschia acicularis	14.7	0.26	Tabellaria quadrisepta	66.3	1.18
			Total	5597.5	100.0

Entrainment for May 1975, continued.

13 MAY 75 D 1115

Number of forms = 45
Temperature(C) = 16.0

Diversity = 4.30
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes sp.	7.4	0.17	Nitzschia dissipata	14.7	0.34
Asterionella formosa	331.4	7.68	Nitzschia spiculoides	7.4	0.17
Centric diatom, unknown	44.2	1.02	Nitzschia sp. #2	14.7	0.34
Coccochloris sp.	14.7	0.34	Oscillatoria limnetica	44.2	1.02
Crucigenia quadrata	29.5	0.68	Oscillatoria sp.	7.4	0.17
Cryptomonas sp.	14.7	0.34	Rhizosolenia eriensis	7.4	0.17
Cyclotella ocellata	14.7	0.34	Rhizosolenia gracilis	117.8	2.73
Cyclotella stelligera	353.5	8.19	Scenedesmus bicellularis	29.5	0.68
Diatoma tenue v. elongatum	51.6	1.19	Stephanodiscus alpinus	36.8	0.85
Dinoflagellates	29.5	0.68	Stephanodiscus astraea	7.4	0.17
Flagellates	515.6	11.95	Stephanodiscus binderanus	66.3	1.54
Fragilaria capucina	147.3	3.41	Stephanodiscus hantzschii	44.2	1.02
Fragilaria crotonensis	331.4	7.68	Stephanodiscus minutus	176.8	4.10
Fragilaria intermedia	22.1	0.51	Stephanodiscus sp.	44.2	1.02
Gloeocystis planctonica	29.5	0.68	Stephanodiscus subtilis	36.8	0.85
Gloeocystis sp.	58.9	1.37	Stephanodiscus tenuis	265.1	6.14
Green coccoid, unknown	36.8	0.85	Synedra delicatissima v. angustissima	22.1	0.51
Melosira granulata	14.7	0.34	Synedra filiformis	206.2	4.78
Melosira islandica	51.6	1.19	Synedra minuscula	7.4	0.17
Melosira italica	88.4	2.05	Tabellaria fenestrata v. intermedia	824.9	19.11
Navicula menisculus v. upsaliensis	7.4	0.17	Tabellaria flocculosa	7.4	0.17
Nitzschia acicularis	51.6	1.19	Tabellaria quadrisepta	44.2	1.02
Nitzschia bacata	36.8	0.85			
			Total	4316.0	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for June 1975.

10 JUN 75 I5A 2140

Number of forms = 56
Temperature (C) = 13.1

Diversity = 4.60
Counted by: D.R.

Taxon	Cells/ml	Percent
Ankistrodesmus falcatus v. tumidus	7.4	0.19
Ankistrodesmus falcatus	14.7	0.37
Ankistrodesmus sp.#1	14.7	0.37
Asterionella formosa	125.2	3.16
Blue-green unknown cells	29.5	0.74
Blue-green unknown filament	44.2	1.11
Centric diatom, unknown	58.9	1.49
Chroomulina sp.	7.4	0.19
Closteriopsis longissima	7.4	0.19
Cryptomonas sp.	7.4	0.19
Cyclotella meneghiniana	66.3	1.67
Cyclotella ocellata	7.4	0.19
Cyclotella operculata	7.4	0.19
Cyclotella stelligera	36.8	0.93
Diatoma tenue v. elongatum	58.9	1.49
Dinobryon bavaricum	14.7	0.37
Dinobryon divergens	14.7	0.37
Dinobryon sp.	29.5	0.74
Flagellates	268.8	6.78
Fragilaria capucina	464.0	11.70
Fragilaria crotonensis	184.1	4.64
Glenodinium sp.	22.1	0.56
Gloeocystis sp.	7.4	0.19
Green coccoid, unknown	73.7	1.86
Green filament, unknown	221.0	5.57
Melosira granulata	95.7	2.41
Melosira islandica	14.7	0.37
Navicula tripunctata	7.4	0.19
Nitzschia acicularis	66.3	1.67
Nitzschia bacata	14.7	0.37
Nitzschia confinis	7.4	0.19
Nitzschia kuetzingiana	14.7	0.37
Nitzschia palea	14.7	0.37
Nitzschia sp.	7.4	0.19
Oocystis pusilla	88.4	2.23
Oscillatoria limnetica	176.8	4.46
Oscillatoria sp.	95.7	2.41
Rhizosolenia eriensis	14.7	0.37
Rhizosolenia gracilis	58.9	1.49
Scenedesmus acuminatus	29.5	0.74
Scenedesmus bicellularis	88.4	2.23
Scenedesmus dimorphus	29.5	0.74
Scenedesmus quadricauda v. parvus	29.5	0.74
Scenedesmus sp.	73.7	1.86
Stephanodiscus alpinus	7.4	0.19
Stephanodiscus hantzschii	7.4	0.19
Stephanodiscus minutus	14.7	0.37
Stephanodiscus subtilis	58.9	1.49
Stephanodiscus tenuis	213.6	5.39
Synedra delicatissima v. angustissima	44.2	1.11
Synedra filiformis	51.6	1.30
Synedra ulna v. chaseana	14.7	0.37
Tabellaria fenestrata v. intermedia	788.1	19.87
Tabellaria flocculosa	7.4	0.19
Thalassiosira pseudonana	7.4	0.19
Ulothrix sp.	29.5	0.74
Total	3966.2	100.0

Entrainment for June 1975, continued.

10 JUN 75 I5B 2140

Number of forms = 43
Temperature (C) = 13.1

Diversity = 4.02
Counted by: D.R.

Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	7.4	0.19
Asterionella formosa	147.3	3.73
Blue-green unknown filament	7.4	0.19
Centric diatom, unknown	132.6	3.36
Chroococcus dispersus	29.5	0.75
Crucigenia quadrata	29.5	0.75
Cryptomonas sp.	7.4	0.19
Cyclotella meneghiniana	29.5	0.75
Cyclotella ocellata	22.1	0.56
Cyclotella sp.	110.5	2.80
Cyclotella stelligera	44.2	1.12
Diatoma tenue v. elongatum	66.3	1.68
Dinobryon divergens	44.2	1.12
Flagellates	449.3	11.38
Fragilaria crotonensis	198.9	5.04
Glenodinium sp.	7.4	0.19
Gloeocystis sp.	58.9	1.49
Green coccoid, unknown	81.0	2.05
Melosira granulata	221.0	5.60
Mougeotia sp.	22.1	0.56
Navicula cryptocephala v. intermedia	7.4	0.19
Navicula decussis	7.4	0.19
Nitzschia acicularis	44.2	1.12
Nitzschia confinis	7.4	0.19
Nitzschia palea	7.4	0.19
Nitzschia spiculoides	7.4	0.19
Oocystis pusilla	29.5	0.75
Oscillatoria limnetica	265.1	6.72
Oscillatoria sp.	51.6	1.31
Rhizosolenia gracilis	44.2	1.12
Scenedesmus bicellularis	44.2	1.12
Scenedesmus sp.	58.9	1.49
Stephanodiscus alpinus	7.4	0.19
Stephanodiscus hantzschii	14.7	0.37
Stephanodiscus minutus	14.7	0.37
Stephanodiscus subtilis	44.2	1.12
Stephanodiscus tenuis	412.5	10.45
Synedra delicatissima v. angustissima	7.4	0.19
Synedra filiformis	66.3	1.68
Synedra sp.	7.4	0.19
Synedra tenera	7.4	0.19
Tabellaria fenestrata v. intermedia	1060.6	26.87
Thalassiosira pseudonana	14.7	0.37
Total	3947.7	100.0

Entrainment for June 1975, continued.

10 JUN 75 DA 2140

Number of forms = 42
Temperature(C) = 21.8

Diversity = 3.94
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora subcostulata	7.4	0.19	Nitzschia palea	14.7	0.37
Amphora #5	7.4	0.19	Nitzschia spiculoides	7.4	0.19
Asterionella formosa	117.8	2.97	Nitzschia sp.	14.7	0.37
Centric diatom, unknown	73.7	1.86	Oscillatoria limnetica	346.2	8.74
Chromulina sp.	58.9	1.49	Oscillatoria sp.	147.3	3.72
Cryptomonas sp.	29.5	0.74	Rhizosolenia gracilis	66.3	1.67
Cyclotella meneghiniana	14.7	0.37	Scenedesmus bicellularis	29.5	0.74
Cyclotella ocellata	14.7	0.37	Scenedesmus quadricauda	44.2	1.12
Cyclotella operculata	7.4	0.19	Scenedesmus sp.	58.9	1.49
Cyclotella stelligera	110.5	2.79	Stephanodiscus astraea	7.4	0.19
Diatoma tenue v. elongatum	29.5	0.74	Stephanodiscus binderanus	7.4	0.19
Dinobryon divergens	29.5	0.74	Stephanodiscus minutus	14.7	0.37
Flagellates	670.2	16.91	Stephanodiscus sp.	14.7	0.37
Glenodinium sp.	14.7	0.37	Stephanodiscus subtilis	73.7	1.86
Gloeocystis sp.	44.2	1.12	Stephanodiscus tenuis	360.9	9.11
Green coccoid, unknown	176.8	4.46	Stephanodiscus transilvanicus	7.4	0.19
Melosira granulata	154.7	3.90	Synedra delicatissima v. angustissima	29.5	0.74
Nitzschia acicularis	29.5	0.74	Synedra filiformis	117.8	2.97
Nitzschia bacata	7.4	0.19	Synedra ulna v. chaseana	14.7	0.37
Nitzschia confinis	7.4	0.19	Tabellaria fenestrata v. intermedia	964.8	24.35
Nitzschia kuetzingiana	7.4	0.19	Thalassiosira pseudonana	7.4	0.19
			Total	3962.5	100.0

Entrainment for June 1975, continued.

10 JUN 75 DB 2140

Number of forms = 53
Temperature(C) = 21.8

Diversity = 4.40
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	7.4	0.18	Nitzschia paleacea	7.4	0.18
Ankistrodesmus sp.#1	7.4	0.18	Nitzschia spiculoides	7.4	0.18
Asterionella formosa	103.1	2.49	Nitzschia sp.	14.7	0.36
Centric diatom, unknown	92.1	2.23	Oscillatoria limnetica	287.2	6.95
Chromulina sp.	7.4	0.18	Oscillatoria sp.	81.0	1.96
Closteriopsis longissima	7.4	0.18	Pediastrum duplex v reticulatum	110.5	2.67
Crucigenia apiculata	29.5	0.71	Peridinium sp.	29.5	0.71
Cryptomonas sp.	14.7	0.36	Phacus sp.	7.4	0.18
Cyclotella cryptica	7.4	0.18	Rhizosolenia gracilis	117.8	2.85
Cyclotella meneghiniana	22.1	0.53	Scenedesmus bicellularis	73.7	1.78
Cyclotella ocellata	7.4	0.18	Scenedesmus quadricauda	29.5	0.71
Cyclotella stelligera	88.4	2.14	Scenedesmus sp.	58.9	1.42
Diatoma tenue v. elongatum	117.8	2.85	Stephanodiscus alpinus	7.4	0.18
Dinobryon divergens	14.7	0.36	Stephanodiscus binderanus	14.7	0.36
Dinoflagellates	22.1	0.53	Stephanodiscus hantzschii	7.4	0.18
Flagellates	758.6	18.34	Stephanodiscus minutus	14.7	0.36
Fragilaria capucina	73.7	1.78	Stephanodiscus sp.	7.4	0.18
Fragilaria crotonensis	147.3	3.56	Stephanodiscus sp. #5	7.4	0.18
Fragilaria pinnata v. lancettula	7.4	0.18	Stephanodiscus subtilis	95.7	2.32
Glenodinium sp.	7.4	0.18	Stephanodiscus tenuis	287.2	6.95
Gloeocystis planctonica	29.5	0.71	Synedra delicatissima v. angustissima	58.9	1.42
Green coccoid, unknown	44.2	1.07	Synedra filiformis	125.2	3.03
Melosira granulata	228.3	5.52	Synedra sp.	7.4	0.18
Navicula sp.	7.4	0.18	Synedra ulna v. chaseana	7.4	0.18
Nitzschia acicularis	103.1	2.49	Tabellaria fenestrata v. intermedia	670.2	16.21
Nitzschia bacata	22.1	0.53	Treubaria setigerum	7.4	0.18
Nitzschia palea	14.7	0.36			
			Total	4135.5	100.0

Entrainment for June 1975, continued.

11 JUN 75 I5A 0330

Number of forms = 54
Temperature(C) = 9.0

Diversity = 4.46
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	18.4	0.73	Navicula sp.	3.7	0.15
Asterionella formosa	58.9	2.34	Nitzschia acicularis	58.9	2.34
Blue-green unknown filament	3.7	0.15	Nitzschia acuta	3.7	0.15
Centric diatom, unknown	25.8	1.02	Nitzschia bacata	3.7	0.15
Chromulina sp.	14.7	0.58	Nitzschia confinis	11.0	0.44
Crucigenia quadrata	14.7	0.58	Nitzschia dissipata	3.7	0.15
Cryptomonas sp.	3.7	0.15	Nitzschia spiculoides	3.7	0.15
Cyclotella meneghiniana	7.4	0.29	Nitzschia sp.	11.0	0.44
Cyclotella ocellata	18.4	0.73	Nitzschia sp. #2	3.7	0.15
Cyclotella stelligera	110.5	4.39	Oscillatoria limnetica	287.2	11.40
Cyclotella temperei	3.7	0.15	Oscillatoria sp.	29.5	1.17
Cymbella latens	7.4	0.29	Rhizosolenia gracilis	128.9	5.12
Diatoma tenue	3.7	0.15	Scenedesmus bicellularis	44.2	1.75
Diatoma tenue v. elongatum	58.9	2.34	Scenedesmus sp.	14.7	0.58
Dinobryon divergens	33.1	1.32	Schizothrix friesii	14.7	0.58
Dinobryon sp.	7.4	0.29	Stephanodiscus binderanus	25.8	1.02
Dinoflagellates	11.0	0.44	Stephanodiscus hantzschii	14.7	0.58
Flagellates	364.6	14.47	Stephanodiscus minutus	40.5	1.61
Fragilaria capucina	3.7	0.15	Stephanodiscus sp.	14.7	0.58
Fragilaria crotonensis	106.8	4.24	Stephanodiscus subtilis	22.1	0.88
Green coccoid, unknown	44.2	1.75	Stephanodiscus tenuis	114.2	4.53
Green filament, unknown	7.4	0.29	Synedra delicatissima v. angustissima	44.2	1.75
Melosira granulata	81.0	3.22	Synedra filiformis	169.4	6.73
Melosira islandica	7.4	0.29	Synedra sp.	3.7	0.15
Melosira italica	22.1	0.88	Tabellaria fenestrata v. intermedia	375.6	14.91
Mougeotia sp.	18.4	0.73	Tabellaria flocculosa	7.4	0.29
Navicula simplex	3.7	0.15	Tetraedron regulare v. incus	3.7	0.15
			Total	2518.9	100.0

Entrainment for June 1975, continued.

11 JUN 75 I5B 0330

Number of forms = 55
Temperature(C) = 9.0

Diversity = 4.15
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes lanceolata v. dubia	3.7	0.17	Melosira islandica	11.0	0.50
Achnanthes sp.	3.7	0.17	Melosira italica	7.4	0.33
Ankistrodesmus falcatus	3.7	0.17	Navicula sp.	3.7	0.17
Ankistrodesmus sp.#1	3.7	0.17	Nitzschia acicularis	25.8	1.17
Asterionella formosa	81.0	3.67	Nitzschia bacata	3.7	0.17
Centric diatom, unknown	18.4	0.83	Nitzschia confinis	3.7	0.17
Chromulina sp.	22.1	1.00	Nitzschia kuetzingiana	3.7	0.17
Cosmarium #1	3.7	0.17	Nitzschia sp.	7.4	0.33
Cryptomonas sp.	3.7	0.17	Nitzschia sp. #2	3.7	0.17
Cyclotella cryptica	3.7	0.17	Oscillatoria limnetica	184.1	8.33
Cyclotella kuetzingiana	3.7	0.17	Oscillatoria sp.	47.9	2.17
Cyclotella meneghiniana v. plana	3.7	0.17	Peridinium sp.	3.7	0.17
Cyclotella meneghiniana	7.4	0.33	Rhizosolenia gracilis	132.6	6.00
Cyclotella michiganiana	3.7	0.17	Scenedesmus bicellularis	14.7	0.67
Cyclotella ocellata	18.4	0.83	Scenedesmus sp.	14.7	0.67
Cyclotella stelligera	121.5	5.50	Stephanodiscus alpinus	7.4	0.33
Cymbella latens	3.7	0.17	Stephanodiscus binderanus	7.4	0.33
Diatoma tenue v. elongatum	29.5	1.33	Stephanodiscus hantzschii	7.4	0.33
Dinobryon divergens	36.8	1.67	Stephanodiscus minutus	22.1	1.00
Dinobryon sp.	7.4	0.33	Stephanodiscus sp.	18.4	0.83
Dinoflagellates	22.1	1.00	Stephanodiscus subtilis	7.4	0.33
Euglena sp.	3.7	0.17	Stephanodiscus tenuis	77.3	3.50
Flagellates	430.9	19.50	Synedra delicatissima v. angustissima	22.1	1.00
Fragilaria crotonensis	36.8	1.67	Synedra filiformis	70.0	3.17
Glenodinium sp.	3.7	0.17	Synedra tenera	3.7	0.17
Gloeocystis sp.	3.7	0.17	Synedra ulna v. chaseana	7.4	0.33
Green coccoid, unknown	66.3	3.00	Tabellaria fenestrata v. intermedia	456.6	20.67
Melosira granulata	84.7	3.83			
			Total	2209.6	100.0

Entrainment for June 1975, continued.

11 JUN 75 DA 0330

Number of forms = 46
Temperature(C) = 17.8

Diversity = 4.22
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes lanceolata v. dubia	7.4	0.19	Nitzschia palea	7.4	0.19
Ankistrodesmus falcatus	22.1	0.58	Oocystis parva	58.9	1.54
Ankistrodesmus sp.#1	7.4	0.19	Oscillatoria limnetica	449.3	11.75
Asterionella formosa	132.6	3.47	Oscillatoria sp.	88.4	2.31
Centric diatom, unknown	36.8	0.96	Rhizosolenia gracilis	51.6	1.35
Chroomulina sp.	14.7	0.39	Scenedesmus bicellularis	14.7	0.39
Cosmarium #1	7.4	0.19	Scenedesmus opoliensis	14.7	0.39
Cryptomonas sp.	14.7	0.39	Scenedesmus sp.	58.9	1.54
Cyclotella meneghiniana	14.7	0.39	Stephanodiscus binderanus	58.9	1.54
Cyclotella ocellata	29.5	0.77	Stephanodiscus hantzschii	22.1	0.58
Cyclotella stelligera	154.7	4.05	Stephanodiscus minutus	36.8	0.96
Diatoma tenue v. elongatum	36.8	0.96	Stephanodiscus sp.	22.1	0.58
Dinobryon divergens	66.3	1.73	Stephanodiscus subtilis	36.8	0.96
Dinoflagellates	29.5	0.77	Stephanodiscus tenuis	154.7	4.05
Flagellates	714.4	18.69	Surirella angusta	7.4	0.19
Fragilaria crotonensis	287.2	7.51	Synedra delicatissima v. angustissima	29.5	0.77
Green coccoid, unknown	44.2	1.16	Synedra filiformis	147.3	3.85
Melosira granulata	250.4	6.55	Synedra sp.	7.4	0.19
Navicula radiosa v. tenella	7.4	0.19	Synedra ulna v. chaseana	7.4	0.19
Nitzschia acicularis	14.7	0.39	Tabellaria fenestrata v. intermedia	552.4	14.45
Nitzschia acuta	7.4	0.19	Tabellaria flocculosa	36.8	0.96
Nitzschia bacata	7.4	0.19	Tabellaria quadrisepta	22.1	0.58
Nitzschia kuetzingiana	14.7	0.39	Thalassiosira pseudonana	14.7	0.39
			Total	3822.5	100.0

Entrainment for June 1975, continued.

11 JUN 75 DB 0330

Number of forms = 39
Temperature(C) = 17.8

Diversity = 3.56
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	662.9	14.26
Asterionella formosa	44.2	0.95
Centric diatom, unknown	29.5	0.63
Chromulina sp.	73.7	1.58
Cosmarium #1	7.4	0.16
Cryptomonas sp.	36.8	0.79
Cyclotella kuetzingiana	7.4	0.16
Cyclotella meneghiniana v. plana	7.4	0.16
Cyclotella meneghiniana	7.4	0.16
Cyclotella ocellata	22.1	0.48
Cyclotella stelligera	22.1	0.48
Diatoma tenue v. elongatum	29.5	0.63
Dinobryon divergens	7.4	0.16
Echinosphaerella limnetica	7.4	0.16
Flagellates	1450.9	31.22
Fragilaria crotonensis	257.8	5.55
Gloeocystis sp.	51.6	1.11
Gomphosphaeria lacustris	589.2	12.68
Green coccoid, unknown	22.1	0.48
Green filament, unknown	7.4	0.16
Gymnodinium sp.	7.4	0.16
Melosira granulata	139.9	3.01
Nitzschia acicularis	29.5	0.63
Oscillatoria limnetica	257.8	5.55
Oscillatoria sp.	36.8	0.79
Rhizosolenia eriensis	7.4	0.16
Rhizosolenia gracilis	88.4	1.90
Scenedesmus bicellularis	14.7	0.32
Scenedesmus bijuga v. alternans	44.2	0.95
Stephanodiscus binderanus	14.7	0.32
Stephanodiscus hantzschii	14.7	0.32
Stephanodiscus minutus	36.8	0.79
Stephanodiscus sp.	7.4	0.16
Stephanodiscus tenuis	73.7	1.58
Stephanodiscus transilvanicus	7.4	0.16
Synedra delicatissima v. angustissima	36.8	0.79
Synedra filiformis	117.8	2.54
Synedra ulna v. chaseana	7.4	0.16
Tabellaria fenestrata v. intermedia	360.9	7.77
Total	4647.4	100.0

Entrainment for June 1975, continued.

11 JUN 75 I5A 1120

Number of forms = 51
Temperature(C) = 12.2

Diversity = 4.22
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	405.1	8.30	Navicula menisculus v. upsaliensis	7.4	0.15
Ankistrodesmus falcatus	22.1	0.45	Navicula simplex	7.4	0.15
Ankistrodesmus sp. #3	7.4	0.15	Nitzschia acicularis	14.7	0.30
Asterionella formosa	7.4	0.15	Nitzschia bacata	7.4	0.15
Centric diatom, unknown	7.4	0.15	Nitzschia confinis	7.4	0.15
Chromulina #1	7.4	0.15	Nitzschia kuetzingiana	7.4	0.15
Cosmarium #1	7.4	0.15	Nitzschia paleacea	7.4	0.15
Crucigenia truncata	117.8	2.41	Nitzschia spiculoides	7.4	0.15
Cyclotella meneghiniana	44.2	0.90	Ochromonas sp.	117.8	2.41
Cyclotella ocellata	14.7	0.30	Oscillatoria bornetii	14.7	0.30
Cyclotella sp.	7.4	0.15	Oscillatoria limnetica	272.5	5.58
Cyclotella stelligera	198.9	4.07	Oscillatoria sp.	36.8	0.75
Diatoma tenue v. elongatum	81.0	1.66	Rhizosolenia eriensis	7.4	0.15
Dinobryon bavaricum	7.4	0.15	Rhizosolenia gracilis	36.8	0.75
Dinobryon divergens	7.4	0.15	Scenedesmus bicellularis	14.7	0.30
Dinobryon sociale	51.6	1.06	Scenedesmus quadricauda	88.4	1.81
Dinobryon sp.	14.7	0.30	Scenedesmus sp.	29.5	0.60
Dinoflagellates	22.1	0.45	Stephanodiscus alpinus	7.4	0.15
Flagellates	449.3	9.20	Stephanodiscus minutus	29.5	0.60
Fragilaria crotonensis	198.9	4.07	Stephanodiscus subtilis	44.2	0.90
Gloeocystis sp.	51.6	1.06	Stephanodiscus tenuis	331.4	6.79
Gomphosphaeria lacustris	1104.8	22.62	Synedra delicatissima v. angustissima	44.2	0.90
Green coccoid, unknown	154.7	3.17	Synedra filiformis	81.0	1.66
Melosira distans v. alpigena	7.4	0.15	Tabellaria fenestrata v. intermedia	390.4	7.99
Melosira granulata	243.1	4.98	Tetraedron minimum	7.4	0.15
Melosira italica	22.1	0.45			
			Total	4883.1	100.0

Entrainment for June 1975, continued.

11 JUN 75 I5B 1120

Number of forms = 57
Temperature (C) = 12.2

Diversity = 4.22
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes sp.	3.7	0.13	Nitzschia dissipata	3.7	0.13
Asterionella formosa	51.6	1.77	Nitzschia palea	7.4	0.25
Blue-green unknown filament	3.7	0.13	Nitzschia sp.	7.4	0.25
Centric diatom, unknown	14.7	0.51	Nitzschia sp. #2	11.0	0.38
Chromulina sp.	18.4	0.63	Oscillatoria limnetica	77.3	2.66
Cosmarium #1	3.7	0.13	Oscillatoria sp.	11.0	0.38
Crucigenia sp.	44.2	1.52	Peridinium sp.	3.7	0.13
Cryptomonas sp.	62.6	2.15	Phacus sp.	3.7	0.13
Cyclotella comta	3.7	0.13	Rhizosolenia gracilis	88.4	3.04
Cyclotella meneghiniana	22.1	0.76	Scenedesmus acuminatus	29.5	1.01
Cyclotella ocellata	7.4	0.25	Scenedesmus bicellularis	7.4	0.25
Cyclotella sp.	3.7	0.13	Scenedesmus sp.	51.6	1.77
Cyclotella stelligera	36.8	1.27	Stephanodiscus alpinus	3.7	0.13
Diatoma tenue	3.7	0.13	Stephanodiscus binderanus	11.0	0.38
Diatoma tenue v. elongatum	44.2	1.52	Stephanodiscus hantzschii	7.4	0.25
Dinobryon divergens	36.8	1.27	Stephanodiscus minutus	18.4	0.63
Flagellates	651.8	22.41	Stephanodiscus sp.	11.0	0.38
Fragilaria capucina	22.1	0.76	Stephanodiscus subtilis	47.9	1.65
Fragilaria crotonensis	342.5	11.77	Stephanodiscus tenuis	239.4	8.23
Gloeocystis planctonica	14.7	0.51	Synedra delicatissima v. angustissima	25.8	0.89
Green coccoid, unknown	92.1	3.16	Synedra filiformis	62.6	2.15
Melosira granulata	162.0	5.57	Synedra minuscula	3.7	0.13
Melosira islandica	14.7	0.51	Synedra sp.	7.4	0.25
Mougeotia sp.	29.5	1.01	Tabellaria fenestrata v. intermedia	397.7	13.67
Navicula menisculus v. obtusa	3.7	0.13	Tabellaria flocculosa	3.7	0.13
Navicula menisculus v. upsaliensis	3.7	0.13	Tabellaria quadrisepta	14.7	0.51
Navicula sp.	7.4	0.25	Tetraedron regulare v. incus	3.7	0.13
Nitzschia acicularis	18.4	0.63	Ulothrix sp.	18.4	0.63
Nitzschia bacata	7.4	0.25			
			Total	2909.2	100.0

Entrainment for June 1975, continued.

11 JUN 75 DA 1120

Number of forms = 50
Temperature(C) = 20.4

Diversity = 4.29
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus sp.	14.7	0.68	Nitzschia kuetzingiana	18.4	0.85
Asterionella formosa	62.6	2.90	Nitzschia sp.	3.7	0.17
Centric diatom, unknown	22.1	1.02	Oscillatoria limnetica	73.7	3.41
Chromulina sp.	3.7	0.17	Oscillatoria sp.	22.1	1.02
Coelastrum sp.	73.7	3.41	Rhizosolenia eriensis	3.7	0.17
Cyclotella comta	3.7	0.17	Rhizosolenia gracilis	95.7	4.43
Cyclotella meneghiniana	7.4	0.34	Scenedesmus bicellularis	7.4	0.34
Cyclotella ocellata	14.7	0.68	Scenedesmus dimorphus	14.7	0.68
Cyclotella stelligera	70.0	3.24	Scenedesmus obliquus	14.7	0.68
Diatoma tenue	3.7	0.17	Scenedesmus sp.	14.7	0.68
Diatoma tenue v. elongatum	40.5	1.87	Stephanodiscus binderanus	29.5	1.36
Dinobryon bavaricum	3.7	0.17	Stephanodiscus hantzschii	3.7	0.17
Dinobryon divergens	44.2	2.04	Stephanodiscus minutus	18.4	0.85
Flagellates	187.8	8.69	Stephanodiscus sp.	7.4	0.34
Fragilaria capucina v. mesolepta	3.7	0.17	Stephanodiscus subtilis	3.7	0.17
Fragilaria crotonensis	405.1	18.74	Stephanodiscus tenuis	217.3	10.05
Gloeocystis planctonica	14.7	0.68	Synedra acus	3.7	0.17
Gloeocystis sp.	7.4	0.34	Synedra delicatissima v. angustissima	22.1	1.02
Green coccoid, unknown	29.5	1.36	Synedra filiformis	66.3	3.07
Melosira granulata	169.4	7.84	Synedra ostenfeldii	3.7	0.17
Melosira italica	3.7	0.17	Synedra sp.	3.7	0.17
Navicula decussis	3.7	0.17	Synedra ulna	3.7	0.17
Nitzschia acicularis	44.2	2.04	Tabellaria fenestrata v. intermedia	254.1	11.75
Nitzschia bacata	7.4	0.34	Tabellaria flocculosa	7.4	0.34
Nitzschia dissipata	3.7	0.17	Tetraedron regulare v. incus	3.7	0.17
			Total	2161.7	100.0

Entrainment for June 1975, continued.

11 JUN 75 DB 1120

Number of forms = 44
Temperature (C) = 20.4

Diversity = 3.90
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes minutissima	7.4	0.14	Nitzschia acicularis	36.8	0.69
Amphora ovalis v. pediculus	7.4	0.14	Nitzschia confinis	22.1	0.41
Ankistrodesmus sp.#1	7.4	0.14	Nitzschia kuetzingiana	7.4	0.14
Asterionella formosa	88.4	1.65	Nitzschia sp.	29.5	0.55
Centric diatom, unknown	36.8	0.69	Ochromonas sp.	103.1	1.93
Chromulina #1	7.4	0.14	Oscillatoria bornetii	14.7	0.28
Chromulina sp.	29.5	0.55	Oscillatoria limnetica	250.4	4.69
Cryptomonas sp.	81.0	1.52	Oscillatoria sp.	88.4	1.65
Cyclotella meneghiniana	44.2	0.83	Rhizosolenia gracilis	51.6	0.97
Cyclotella ocellata	29.5	0.55	Scenedesmus bicellularis	44.2	0.83
Cyclotella stelligera	214.2	4.01	Scenedesmus quadricauda	14.7	0.28
Diatoma tenue v. elongatum	66.3	1.24	Stephanodiscus alpinus	7.4	0.14
Dinobryon divergens	95.7	1.79	Stephanodiscus minutus	22.1	0.41
Dinobryon sp.	14.7	0.28	Stephanodiscus sp.	7.4	0.14
Dinoflagellates	36.8	0.69	Stephanodiscus subtilis	51.6	0.97
Flagellates	1649.8	30.89	Stephanodiscus tenuis	375.6	7.03
Fragilaria crotonensis	331.4	6.21	Synedra delicatissima v. angustissima	14.7	0.28
Gloeocystis planctonica	147.3	2.76	Synedra filiformis	88.4	1.65
Gloeocystis sp.	7.4	0.14	Synedra tenera	7.4	0.14
Green coccoid, unknown	169.4	3.17	Synedra ulna v. chaseana	7.4	0.14
Melosira granulata	294.6	5.52	Tabellaria fenestrata v. intermedia	677.6	12.69
Melosira italica	7.4	0.14	Tabellaria quadrisepta	44.2	0.83
			Total	5340.4	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for July 1975.

23 JUL 75 I5A 2155

Number of forms = 48
Temperature (C) = 24.0

Diversity = 3.94
Counted by: D.R.

Taxon	Cells/ml	Percent
Actinastrum hantzschii v. fluviatile	18.4	0.45
Anabaena flos-aquae	47.9	1.16
Anacystis incerta	88.4	2.15
Ankistrodesmus falcatus	7.4	0.18
Ankistrodesmus sp. #3	7.4	0.18
Ankistrodesmus sp.#1	40.5	0.99
Chromulina #1	81.0	1.97
Chromulina #2	47.9	1.16
Chromulina parvula	202.5	4.93
Cosmarium #1	3.7	0.09
Crucigenia quadrata	14.7	0.36
Crucigenia tetrapedia	58.9	1.43
Cyclotella meneghiniana	3.7	0.09
Cyclotella ocellata	3.7	0.09
Cyclotella sp.	22.1	0.54
Cyclotella stelligera	416.1	10.13
Dictyosphaerium pulchellum	1101.1	26.79
Dinobryon divergens	11.0	0.27
Dinobryon flagellates	3.7	0.09
Dinoflagellates	3.7	0.09
Flagellates	224.6	5.47
Gloeocystis planctonica	106.8	2.60
Gloeocystis sp.	353.5	8.60
Gomphosphaeria lacustris	147.3	3.58
Green coccoid, unknown	40.5	0.99
Kirchneriella sp.	7.4	0.18
Melosira granulata	73.7	1.79
Merismopedia tenuissima	515.6	12.54
Nitzschia fonticola	3.7	0.09
Nitzschia paleacea	3.7	0.09
Nitzschia sp.	7.4	0.18
Peliastrum duplex v reticulatum	117.8	2.87
Peridinium sp.	7.4	0.18
Scenedesmus acuminatus	22.1	0.54
Scenedesmus bicellularis	51.6	1.25
Scenedesmus dimorphus	33.1	0.81
Scenedesmus falcatus	14.7	0.36
Scenedesmus quadricauda v. longispina	14.7	0.36
Scenedesmus quadricauda	44.2	1.08
Scenedesmus sp.	73.7	1.79
Scenedesmus tetradesmiformis	29.5	0.72
Stephanodiscus minutus	7.4	0.18
Stephanodiscus subtilis	3.7	0.09
Stephanodiscus tenuis	3.7	0.09
Synedra delicatissima v. angustissima	3.7	0.09
Synedra filiformis	7.4	0.18
Tetraedron regulare v. incus	3.7	0.09
Treubaria setigerum	3.7	0.09
Total	4109.8	100.0

Entrainment for July 1975, continued.

23 JUL 75 I5B 2155

Number of forms = 54
Temperature(C) = 24.0

Diversity = 4.09
Counted by: D.R.

Taxon	Cells/ml	Percent
Actinastrum hantzschii v. fluviatile	25.8	0.51
Anacystis incerta	88.4	1.74
Ankistrodesmus sp.#1	51.6	1.01
Chromulina #1	66.3	1.30
Chromulina #2	36.8	0.72
Chromulina parvula	198.9	3.91
Chroococcus dispersus	22.1	0.43
Crucigenia quadrata	14.7	0.29
Crucigenia tetrapedia	73.7	1.45
Cryptomonas sp.	14.7	0.29
Cyclotella meneghiniana	3.7	0.07
Cyclotella michiganiana	11.0	0.22
Cyclotella ocellata	3.7	0.07
Cyclotella sp.	681.3	13.40
Cyclotella stelligera	769.7	15.13
Dictyosphaerium pulchellum	725.5	14.27
Dinobryon divergens	3.7	0.07
Flagellates	423.5	8.33
Fragilaria construens	3.7	0.07
Gloeocystis planctonica	254.1	5.00
Gloeocystis sp.	279.9	5.50
Gomphosphaeria lacustris	530.3	10.43
Green coccoid, unknown	95.7	1.88
Kirchneriella sp.	3.7	0.07
Melosira granulata	103.1	2.03
Navicula capitata	3.7	0.07
Nitzschia acicularis	3.7	0.07
Nitzschia capitellata	3.7	0.07
Nitzschia fonticola	3.7	0.07
Nitzschia kuetzingiana	7.4	0.14
Nitzschia paleacea	3.7	0.07
Nitzschia sp.	18.4	0.36
Oocystis parva	29.5	0.58
Oocystis sp.	14.7	0.29
Oscillatoria sp.	3.7	0.07
Pediastrum biradiatum	58.9	1.16
Peridinium sp.	3.7	0.07
Scenedesmus acuminatus	33.1	0.65
Scenedesmus bicellularis	117.8	2.32
Scenedesmus dimorphus	14.7	0.29
Scenedesmus quadricauda v. longispina	103.1	2.03
Scenedesmus quadricauda v. longispina f.	14.7	0.29
Scenedesmus quadricauda	22.1	0.43
Scenedesmus sp.	14.7	0.29
Scenedesmus tetradesmiformis	14.7	0.29
Stephanodiscus minutus	14.7	0.29
Stephanodiscus subtilis	14.7	0.29
Stephanodiscus tenuis	40.5	0.80
Synedra delicatissima v. angustissima	18.4	0.36
Synedra sp.	3.7	0.07
Tabellaria fenestrata v. intermedia	3.7	0.07
Tetraedron regulare v. incus	3.7	0.07
Tetraedron trigonum	7.4	0.14
Treubaria setigerum	3.7	0.07
Total	5085.6	100.0

Entrainment for July 1975, continued.

23 JUL 75 DA 2155

Number of forms = 50
Temperature(C) = 31.1

Diversity = 3.68
Counted by: D.B.

Taxon	Cells/ml	Percent
Actinastrum hantzschii v. fluviatile	3.7	0.11
Anabaena flos-aquae	33.1	0.97
Anacystis incerta	375.6	10.97
Ankistrodesmus sp.#1	3.7	0.11
Chromulina #1	22.1	0.65
Chromulina #2	7.4	0.22
Chromulina parvula	29.5	0.86
Chroococcus dispersus	25.8	0.75
Closteriopsis longissima	3.7	0.11
Crucigenia quadrata	14.7	0.43
Cryptomonas sp.	7.4	0.22
Cyclotella michiganiana	18.4	0.54
Cyclotella ocellata	3.7	0.11
Cyclotella sp.	467.7	13.66
Cyclotella stelligera	607.6	17.74
Dictyosphaerium pulchellum	747.6	21.83
Dinobryon divergens	7.4	0.22
Dinoflagellates	7.4	0.22
Echinosphaerella limnetica	3.7	0.11
Flagellates	114.2	3.33
Gloeocystis planctonica	132.6	3.87
Gloeocystis sp.	338.8	9.89
Green coccoid, unknown	33.1	0.97
Melosira granulata	73.7	2.15
Nitzschia acicularis	3.7	0.11
Nitzschia amphibia	3.7	0.11
Nitzschia fonticola	3.7	0.11
Nitzschia kuetzingiana	11.0	0.32
Nitzschia palea	3.7	0.11
Nitzschia paleacea	3.7	0.11
Nitzschia spiculoides	3.7	0.11
Oocystis parva	29.5	0.86
Oscillatoria limnetica	3.7	0.11
Peridinium sp.	3.7	0.11
Scenedesmus acuminatus	14.7	0.43
Scenedesmus bicellularis	73.7	2.15
Scenedesmus dimorphus	11.0	0.32
Scenedesmus quadricauda v. longispina	14.7	0.43
Scenedesmus quadricauda	36.8	1.08
Scenedesmus sp.	44.2	1.29
Scenedesmus tetradesmiformis	14.7	0.43
Stephanodiscus alpinus	3.7	0.11
Stephanodiscus minutus	7.4	0.22
Stephanodiscus subtilis	7.4	0.22
Stephanodiscus tenuis	7.4	0.22
Synedra delicatissima v. angustissima	3.7	0.11
Synedra filiformis	18.4	0.54
Synedra sp.	7.4	0.22
Tetraedron regulare v. incus	3.7	0.11
Treubaria setigerum	3.7	0.11
Total	3424.8	100.0

Entrainment for July 1975, continued.

23 JUL 75 DB 2155

Number of forms = 55
Temperature(C) = 31.1

Diversity = 4.08
Counted by: D.B.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Actinastrum hantzschii v. fluviatile	33.1	0.59	Kirchneriella sp.	3.7	0.07
Anabaena flos-aquae	103.1	1.82	Melosira granulata	268.8	4.75
Ankistrodesmus falcatus	3.7	0.07	Nitzschia acicularis	3.7	0.07
Ankistrodesmus sp.	22.1	0.39	Nitzschia capitellata	3.7	0.07
Ankistrodesmus sp.#1	55.2	0.98	Nitzschia fonticola	11.0	0.20
Chromulina #1	40.5	0.72	Nitzschia kuetzingiana	3.7	0.07
Chromulina #2	22.1	0.39	Nitzschia paleacea	7.4	0.13
Chromulina parvula	70.0	1.24	Oocystis sp.	29.5	0.52
Chroococcus dispersus	7.4	0.13	Oscillatoria limnetica	3.7	0.07
Closteriopsis longissima	3.7	0.07	Oscillatoria sp.	3.7	0.07
Cosmarium #1	3.7	0.07	Pediastrum duplex v reticulatum	25.8	0.46
Crucigenia quadrata	22.1	0.39	Scenedesmus bicellularis	73.7	1.30
Crucigenia tetrapedia	206.2	3.65	Scenedesmus dimorphus	51.6	0.91
Cryptomonas sp.	18.4	0.33	Scenedesmus falcatus	14.7	0.26
Cyclotella michiganiana	11.0	0.20	Scenedesmus opoliensis	22.1	0.39
Cyclotella ocellata	7.4	0.13	Scenedesmus quadricauda v. longispina	44.2	0.78
Cyclotella sp.	88.4	1.56	Scenedesmus quadricauda	95.7	1.69
Cyclotella stelligera	1068.0	18.88	Scenedesmus sp.	95.7	1.69
Dictyosphaerium pulchellum	780.7	13.80	Stephanodiscus minutus	3.7	0.07
Dinobryon divergens	11.0	0.20	Stephanodiscus sp.	3.7	0.07
Dinoflagellates	11.0	0.20	Stephanodiscus subtilis	22.1	0.39
Echinosphaerella limnetica	7.4	0.13	Stephanodiscus tenuis	22.1	0.39
Flagellates	394.0	6.97	Synedra delicatissima v. angustissima	14.7	0.26
Fragilaria intermedia	18.4	0.33	Synedra filiformis	18.4	0.33
Gloeocystis planctonica	541.3	9.57	Synura sp.	92.1	1.63
Gloeocystis sp.	762.3	13.48	Tetraedron regulare v. incus	7.4	0.13
Gomphosphaeria lacustris	294.6	5.21	Treubaria setigerum	25.8	0.46
Green coccoid, unknown	77.3	1.37			
			Total	5656.4	100.0

Entrainment for July 1975, continued.

24 JUL 75 I5A 0445

Number of forms = 52
Temperature(C) = 23.5

Diversity = 4.12
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	58.9	1.60	Lagerheimia longiseta	3.7	0.10
Ankistrodesmus falcatus	7.4	0.20	Melosira granulata	176.8	4.80
Ankistrodesmus sp.	3.7	0.10	Merismopedia sp.	117.8	3.20
Ankistrodesmus sp.#1	25.8	0.70	Navicula gastrum	3.7	0.10
Chromulina #1	40.5	1.10	Nitzschia kuetzingiana	3.7	0.10
Chromulina #2	40.5	1.10	Nitzschia palea	7.4	0.20
Chromulina parvula	51.6	1.40	Nitzschia sigma	3.7	0.10
Chroococcus dispersus	14.7	0.40	Nitzschia sp.	11.0	0.30
Closteriopsis longissima	3.7	0.10	Oscillatoria limnetica	3.7	0.10
Cosmarium #1	3.7	0.10	Peridinium sp.	3.7	0.10
Crucigenia quadrata	44.2	1.20	Scenedesmus acuminatus	66.3	1.80
Crucigenia tetrapedia	29.5	0.80	Scenedesmus bicellularis	44.2	1.20
Cryptomonas sp.	14.7	0.40	Scenedesmus dimorphus	29.5	0.80
Cyclotella meneghiniana	3.7	0.10	Scenedesmus opoliensis v. contacta	14.7	0.40
Cyclotella michiganiana	7.4	0.20	Scenedesmus quadricauda v. longispina	29.5	0.80
Cyclotella ocellata	11.0	0.30	Scenedesmus quadricauda v. parvus	44.2	1.20
Cyclotella stelligera	360.9	9.79	Scenedesmus quadricauda	29.5	0.80
Dictyosphaerium pulchellum	751.2	20.38	Scenedesmus sp.	44.2	1.20
Dinobryon divergens	14.7	0.40	Stephanodiscus minutus	3.7	0.10
Dinoflagellates	7.4	0.20	Stephanodiscus sp.	3.7	0.10
Flagellates	419.8	11.39	Stephanodiscus subtilis	11.0	0.30
Fragilaria crotonensis	40.5	1.10	Stephanodiscus tenuis	14.7	0.40
Gloeocystis planctonica	250.4	6.79	Synedra delicatissima v. angustissima	7.4	0.20
Gloeocystis sp.	478.7	12.99	Synedra filiformis	14.7	0.40
Gomphosphaeria lacustris	202.5	5.49	Synedra tenera	3.7	0.10
Green coccoid, unknown	95.7	2.60	Tetraedron regulare v. incus	7.4	0.20
			Total	3686.3	100.0

Entrainment for July 1975, continued.

24 JUL 75 ISB 0445

Number of forms = 53
Temperature(C) = 23.5

Diversity = 3.97
Counted by: D.P.

Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.09
Amphora ovalis v. pediculus	3.7	0.09
Anacystis incerta	22.1	0.54
Ankistrodesmus falcatus	3.7	0.09
Ankistrodesmus sp.	7.4	0.18
Ankistrodesmus sp.#1	55.2	1.36
Bicoeca paropsis	3.7	0.09
Chromulina #1	62.6	1.54
Chromulina #2	165.7	4.09
Chromulina parvula	154.7	3.81
Chroococcus dispersus	7.4	0.18
Coccochloris sp.	29.5	0.73
Crucigenia tetrapedia	103.1	2.54
Cryptomonas sp.	11.0	0.27
Cyclotella cryptica	3.7	0.09
Cyclotella meneghiniana	7.4	0.18
Cyclotella michiganiana	25.8	0.64
Cyclotella ocellata	7.4	0.18
Cyclotella sp.	55.2	1.36
Cyclotella stelligera	611.3	15.08
Dictyosphaerium pulchellum	427.2	10.54
Dinobryon divergens	7.4	0.18
Flagellates	464.0	11.44
Gloeocystis planctonica	279.9	6.90
Gloeocystis sp.	880.1	21.71
Gomphosphaeria lacustris	92.1	2.27
Green coccoid, unknown	84.7	2.09
Green filament, unknown	3.7	0.09
Kirchneriella sp.	3.7	0.09
Melosira granulata	95.7	2.36
Melosira italica	18.4	0.45
Nitzschia acicularis	7.4	0.18
Nitzschia fonticola	3.7	0.09
Nitzschia kuetzingiana	3.7	0.09
Nitzschia sp.	7.4	0.18
Nitzschia sp. #1	7.4	0.18
Oocystis sp.	7.4	0.18
Oscillatoria limnetica	3.7	0.09
Scenedesmus acuminatus	14.7	0.36
Scenedesmus bicellularis	44.2	1.09
Scenedesmus dimorphus	3.7	0.09
Scenedesmus quadricauda v. longispina	14.7	0.36
Scenedesmus quadricauda v. parvus	66.3	1.63
Scenedesmus quadricauda	18.4	0.45
Scenedesmus sp.	70.0	1.73
Selenastrum sp.	14.7	0.36
Stephanodiscus minutus	7.4	0.18
Stephanodiscus subtilis	14.7	0.36
Stephanodiscus tenuis	14.7	0.36
Synedra filiformis	7.4	0.18
Tetraedron caudatum v. longispina	7.4	0.18
Tetraedron regulare v. incus	11.0	0.27
Tetraedron trigonum	3.7	0.09
Total	4054.5	100.0

Entrainment for July 1975, continued.

24 JUL 75 DA 0445

Number of forms = 48
Temperature(C) = 31.5

Diversity = 4.24
Counted by: D.R.

Taxon	Cells/ml	Percent
Actinastrum hantzschii v. fluviatile	58.9	1.12
Anabaena flos-aquae	29.5	0.56
Ankistrodesmus sp.	7.4	0.14
Ankistrodesmus sp.#1	95.7	1.82
Chromulina #1	51.6	0.98
Chromulina #2	66.3	1.26
Chromulina parvula	169.4	3.22
Chroococcus dispersus	29.5	0.56
Cosmarium #1	14.7	0.28
Crucigenia quadrata	147.3	2.80
Crucigenia sp.	29.5	0.56
Crucigenia tetrapedia	88.4	1.68
Cryptomonas sp.	22.1	0.42
Cyclotella meneghiniana	7.4	0.14
Cyclotella michiganiana	22.1	0.42
Cyclotella ocellata	7.4	0.14
Cyclotella stelligera	574.5	10.91
Dinobryon divergens	7.4	0.14
Dinoflagellates	14.7	0.28
Flagellates	942.7	17.90
Fragilaria capucina v. lanceolata	117.8	2.24
Fragilaria crotonensis	36.8	0.70
Glenodinium sp.	7.4	0.14
Gloeocystis planctonica	368.3	6.99
Gloeocystis sp.	324.1	6.15
Gomphosphaeria lacustris	294.6	5.59
Green coccoid, unknown	854.4	16.22
Kirchneriella subsolitaria	29.5	0.56
Melosira granulata	125.2	2.38
Nitzschia fonticola	14.7	0.28
Ochromonas sp.	7.4	0.14
Oocystis sp.	29.5	0.56
Oscillatoria limnetica	22.1	0.42
Peridinium sp.	14.7	0.28
Scenedesmus acuminatus	58.9	1.12
Scenedesmus bicellularis	58.9	1.12
Scenedesmus opoliensis	29.5	0.56
Scenedesmus quadricauda v. parvus	88.4	1.68
Scenedesmus quadricauda	58.9	1.12
Scenedesmus sp.	117.8	2.24
Sphaerocystis schroeteri	117.8	2.24
Stephanodiscus hantzschii	7.4	0.14
Stephanodiscus subtilis	36.8	0.70
Stephanodiscus tenuis	22.1	0.42
Synedra delicatissima v. angustissima	7.4	0.14
Synedra filiformis	7.4	0.14
Tetraedron caudatum	14.7	0.28
Tetraedron minimum	7.4	0.14
Total	5266.1	100.0

Entrainment for July 1975, continued.

24 JUL 75 DB 0445

Number of forms = 48
Temperature (C) = 31.5

Diversity = 3.64
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.13	Green colony, unknown	169.4	6.01
Amphora ovalis	3.7	0.13	Gyrosigma sp.	3.7	0.13
Anabaena flos-aquae	103.1	3.66	Melosira granulata	114.2	4.05
Ankistrodesmus falcatus	3.7	0.13	Navicula costulata	3.7	0.13
Ankistrodesmus sp.#1	3.7	0.13	Navicula sp.	3.7	0.13
Chromulina #1	7.4	0.26	Nitzschia confinis	3.7	0.13
Chromulina #2	51.6	1.83	Nitzschia fonticola	3.7	0.13
Chromulina parvula	3.7	0.13	Nitzschia paleacea	7.4	0.26
Chroococcus dispersus	29.5	1.04	Nitzschia sp.	3.7	0.13
Crucigenia tetrapedia	14.7	0.52	Pediastrum duplex v reticulatum	22.1	0.78
Cryptomonas sp.	3.7	0.13	Peridinium sp.	3.7	0.13
Cyclotella cryptica	3.7	0.13	Scenedesmus acuminatus	44.2	1.57
Cyclotella meneghiniana	3.7	0.13	Scenedesmus bicellularis	29.5	1.04
Cyclotella michiganiana	3.7	0.13	Scenedesmus dimorphus	14.7	0.52
Cyclotella ocellata	11.0	0.39	Scenedesmus quadricauda v. longispina	14.7	0.52
Cyclotella stelligera	670.2	23.76	Scenedesmus quadricauda	58.9	2.09
Dinobryon divergens	3.7	0.13	Scenedesmus sp.	14.7	0.52
Flagellates	545.0	19.32	Stephanodiscus minutus	3.7	0.13
Fragilaria crotonensis	55.2	1.96	Stephanodiscus tenuis	3.7	0.13
Glenodinium sp.	7.4	0.26	Synedra delicatissima v. angustissima	18.4	0.65
Gloeocystis planctonica	81.0	2.87	Synedra filiformis	3.7	0.13
Gloeocystis sp.	397.7	14.10	Synedra sp.	3.7	0.13
Gomphonema sp.	3.7	0.13	Tabellaria fenestrata v. intermedia	3.7	0.13
Green coccoid, unknown	250.4	8.88	Tetraedron regulare v. incus	3.7	0.13
			Total	2820.9	100.0

Entrainment for July 1975, continued.

24 JUL 75 I5A 1115

Number of forms = 50
Temperature(C) = 24.0

Diversity = 3.53
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.09
Actinastrum hantzschii v. fluviatile	11.0	0.28
Anabaena flos-aquae	81.0	2.02
Ankistrodesmus sp.	3.7	0.09
Asterionella formosa	3.7	0.09
Centric diatom, unknown	3.7	0.09
Chromulina #1	7.4	0.18
Chromulina #2	33.1	0.83
Chromulina parvula	11.0	0.28
Chroococcus dispersus	22.1	0.55
Closteriopsis longissima	3.7	0.09
Crucigenia quadrata	14.7	0.37
Crucigenia tetrapedia	14.7	0.37
Cryptomonas sp.	14.7	0.37
Cyclotella meneghiniana	7.4	0.18
Cyclotella michiganiana	3.7	0.09
Cyclotella ocellata	14.7	0.37
Cyclotella sp.	11.0	0.28
Cyclotella stelligera	570.8	14.25
Dictyosphaerium pulchellum	1222.6	30.51
Dinoflagellates	3.7	0.09
Flagellates	224.6	5.61
Fragilaria crotonensis	7.4	0.18
Fragilaria pinnata v. lancettula	3.7	0.09
Gloeocystis planctonica	360.9	9.01
Gloeocystis sp.	497.2	12.41
Gomphosphaeria lacustris	346.2	8.64
Green coccoid, unknown	70.0	1.75
Melosira granulata	77.3	1.93
Nitzschia acicularis	3.7	0.09
Nitzschia palea	3.7	0.09
Oocystis sp.	47.9	1.19
Oscillatoria limnetica	3.7	0.09
Pediastrum duplex v reticulatum	44.2	1.10
Scenedesmus acuminatus	29.5	0.74
Scenedesmus bicellularis	29.5	0.74
Scenedesmus dimorphus	44.2	1.10
Scenedesmus quadricauda	58.9	1.47
Scenedesmus sp.	25.8	0.64
Stephanodiscus alpinus	3.7	0.09
Stephanodiscus minutus	3.7	0.09
Stephanodiscus sp.	7.4	0.18
Stephanodiscus subtilis	3.7	0.09
Stephanodiscus tenuis	11.0	0.28
Synedra delicatissima v. angustissima	7.4	0.18
Synedra filiformis	11.0	0.28
Synedra ostenfeldii	7.4	0.18
Tabellaria fenestrata v. intermedia	3.7	0.09
Treubaria setigerum	3.7	0.09
Tropidoneis lepidoptera	3.7	0.09
Total	4006.7	100.0

Entrainment for July 1975, continued.

24 JUL 75 I5B 1115

Number of forms = 51
Temperature (C) = 24.0

Diversity = 4.11
Counted by: D.B.

Taxon	Cells/ml	Percent
Anabaena flos-aquae	324.1	9.06
Ankistrodesmus sp.	3.7	0.10
Ankistrodesmus sp.#1	18.4	0.51
Chromulina #1	33.1	0.93
Chromulina #2	70.0	1.96
Chromulina parvula	33.1	0.93
Chroococcus dispersus	22.1	0.62
Crucigenia quadrata	14.7	0.41
Crucigenia tetrapedia	14.7	0.41
Cryptomonas sp.	18.4	0.51
Cyclotella meneghiniana	3.7	0.10
Cyclotella michiganiana	18.4	0.51
Cyclotella ocellata	7.4	0.21
Cyclotella sp.	14.7	0.41
Cyclotella stelligera	257.8	7.21
Dictyosphaerium pulchellum	758.6	21.22
Dinobryon divergens	18.4	0.51
Dinoflagellates	11.0	0.31
Flagellates	261.5	7.31
Fragilaria crotonensis	62.6	1.75
Gloeocystis planctonica	235.7	6.59
Gloeocystis sp.	545.0	15.24
Gomphosphaeria aponina	22.1	0.62
Gomphosphaeria lacustris	14.7	0.41
Green cells, undetermined	44.2	1.24
Green coccoid, unknown	77.3	2.16
Kirchneriella sp.	3.7	0.10
Melosira granulata	147.3	4.12
Navicula pupula	3.7	0.10
Nitzschia acicularis	3.7	0.10
Nitzschia paleacea	3.7	0.10
Nitzschia sp.	3.7	0.10
Nitzschia sp. #2	3.7	0.10
Oocystis parva	29.5	0.82
Peridinium sp.	3.7	0.10
Rhizosolenia gracilis	3.7	0.10
Scenedesmus bicellularis	51.6	1.44
Scenedesmus dimorphus	73.7	2.06
Scenedesmus quadricauda v. longispina	14.7	0.41
Scenedesmus quadricauda	14.7	0.41
Scenedesmus sp.	95.7	2.68
Sphaerocystis schroeteri	117.8	3.30
Stephanodiscus minutus	3.7	0.10
Stephanodiscus subtilis	3.7	0.10
Stephanodiscus tenuis	22.1	0.62
Surirella angusta	3.7	0.10
Synedra delicatissima v. angustissima	18.4	0.51
Synedra filiformis	11.0	0.31
Tabellaria fenestrata v. intermedia	11.0	0.31
Tetraedron regulare v. incus	7.4	0.21
Treubaria setigerum	14.7	0.41
Total	3575.8	100.0

Entrainment for July 1975, continued.

24 JUL 75 DA 1115

Number of forms = 58
Temperature(C) = 32.0

Diversity = 4.05
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	143.6	3.73	Gomphosphaeria lacustris	221.0	5.74
Ankistrodesmus falcatus	7.4	0.19	Green coccoid, unknown	22.1	0.57
Ankistrodesmus setigerus	3.7	0.10	Kirchneriella sp.	7.4	0.19
Ankistrodesmus sp.	7.4	0.19	Melosira granulata	232.0	6.02
Ankistrodesmus sp. #3	3.7	0.10	Navicula capitata	3.7	0.10
Ankistrodesmus sp.#1	11.0	0.29	Navicula sp.	3.7	0.10
Ceratium hirundinella	3.7	0.10	Nitzschia acicularis	3.7	0.10
Chromulina #2	33.1	0.86	Nitzschia fonticola	3.7	0.10
Chromulina parvula	14.7	0.38	Nitzschia kuetzingiana	3.7	0.10
Chroococcus dispersus	18.4	0.48	Nitzschia sp.	3.7	0.10
Coccochloris sp.	66.3	1.72	Oocystis parva	14.7	0.38
Cruciqenia tetrapedia	58.9	1.53	Oscillatoria limnetica	3.7	0.10
Cruciqenia truncata	14.7	0.38	Pediastrum duplex v reticulatum	22.1	0.57
Cryptomonas sp.	14.7	0.38	Scenedesmus acuminatus	14.7	0.38
Cyclotella comta	3.7	0.10	Scenedesmus bicellularis	14.7	0.38
Cyclotella michiqaniana	11.0	0.29	Scenedesmus quadricauda v. longispina	29.5	0.76
Cyclotella ocellata	18.4	0.48	Scenedesmus quadricauda v. parvus	14.7	0.38
Cyclotella sp.	44.2	1.15	Scenedesmus quadricauda	22.1	0.57
Cycloteila stelligera	338.8	8.80	Scenedesmus sp.	110.5	2.87
Dictyosphaerium pulchellum	832.3	21.61	Stephanodiscus minutus	3.7	0.10
Dinobryon divergens	18.4	0.48	Stephanodiscus sp.	3.7	0.10
Dinoflaqellates	7.4	0.19	Stephanodiscus subtilis	3.7	0.10
Flagellates	198.9	5.16	Stephanodiscus tenuis	36.8	0.96
Fraqilaria capucina	7.4	0.19	Synedra delicatissima v. angustissima	18.4	0.48
Fraqilaria intermedia	18.4	0.48	Synedra filiformis	7.4	0.19
Glenodinium sp.	14.7	0.38	Tabellaria fenestrata v. intermedia	7.4	0.19
Gloeocystis planctonica	475.1	12.33	Tetraedron caudatum v. longispina	7.4	0.19
Gloeocystis sp.	530.3	13.77	Tetraedron regulare v. incus	11.0	0.29
Gomphosphaeria aponina	73.7	1.91	Treubaria setigerum	7.4	0.19
			Total	3852.0	100.0

Entrainment for July 1975, continued.

24 JUL 75 DB 1115

Number of forms = 52
Temperature(C) = 32.0

Diversity = 3.76
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	165.7	3.43	Navicula radiosa v. tenella	3.7	0.08
Anacystis incerta	681.3	14.11	Nitzschia dissipata	7.4	0.15
Chromulina #1	3.7	0.08	Nitzschia fonticola	3.7	0.08
Chromulina #2	51.6	1.07	Nitzschia paleacea	3.7	0.08
Chromulina parvula	3.7	0.08	Nitzschia spiculoides	3.7	0.08
Chroococcus dispersus	44.2	0.92	Nitzschia sp.	3.7	0.08
Crucigenia quadrata	88.4	1.83	Nitzschia sp. #1	3.7	0.08
Crucigenia tetrapedia	14.7	0.31	Oocystis sp.	73.7	1.53
Cryptomonas sp.	3.7	0.08	Pediastrum duplex v reticulatum	36.8	0.76
Cyclotella meneghiniana	11.0	0.23	Pediastrum sp.	29.5	0.61
Cyclotella michiganiana	7.4	0.15	Peridinium sp.	3.7	0.08
Cyclotella ocellata	7.4	0.15	Scenedesmus bicellularis	14.7	0.31
Cyclotella sp.	73.7	1.53	Scenedesmus dimorphus	29.5	0.61
Cyclotella stelligera	832.3	17.24	Scenedesmus opoliensis	14.7	0.31
Dictyosphaerium pulchellum	839.6	17.39	Scenedesmus quadricauda v. longispina	51.6	1.07
Dinobryon divergens	11.0	0.23	Scenedesmus quadricauda	7.4	0.15
Dinoflagellates	7.4	0.15	Scenedesmus sp.	73.7	1.53
Flagellates	25.8	0.53	Stephanodiscus alpinus	3.7	0.08
Fragilaria capucina v. lanceolata	51.6	1.07	Stephanodiscus minutus	3.7	0.08
Gloeocystis planctonica	368.3	7.63	Stephanodiscus subtilis	22.1	0.46
Gloeocystis sp.	784.4	16.25	Stephanodiscus tenuis	25.8	0.53
Green coccoid, unknown	110.5	2.29	Surirella ovata	3.7	0.08
Kirchneriella sp.	22.1	0.46	Synedra delicatissima v. angustissima	11.0	0.23
Melosira granulata	139.9	2.90	Synedra filiformis	25.8	0.53
Melosira italica	3.7	0.08	Tabellaria fenestrata v. intermedia	7.4	0.15
Navicula nyassensis	3.7	0.08	Tetraedron trigonum	3.7	0.08
			Total	4827.9	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for August 1975.

11 AUG 75 I5A 2115

Number of forms = 44
Temperature(C) = 21.5

Diversity = 3.93
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	3.7	0.45	Glenodinium sp.	1.8	0.22
Anacystis incerta	131.7	16.01	Gloeocystis planctonica	25.8	3.14
Asterionella formosa	5.5	0.67	Gloeocystis sp.	120.7	14.67
Ceratium hirundinella	1.8	0.22	Gomphosphaeria lacustris	147.4	17.92
Chromulina #2	0.9	0.11	Green coccoid, unknown	17.5	2.13
Chromulina parvula	45.1	5.49	Melosira granulata	4.6	0.56
Chroococcus dispersus	12.9	1.57	Navicula menisculus v. upsaliensis	0.9	0.11
Cosmarium #1	1.8	0.22	Nitzschia acicularis	3.7	0.45
Crucigenia quadrata	7.4	0.90	Nitzschia paleacea	0.9	0.11
Cryptomonas sp.	2.8	0.34	Oocystis parva	16.6	2.02
Cryptophycean flagellates	1.8	0.22	Oocystis sp.	3.7	0.45
Cyclotella comta	2.8	0.34	Rhizosolenia eriensis	1.8	0.22
Cyclotella michiganiana	20.3	2.46	Scenedesmus bicellularis	3.7	0.45
Cyclotella ocellata	5.5	0.67	Scenedesmus quadricauda v. longispina	1.8	0.22
Cyclotella sp.	1.8	0.22	Scenedesmus quadricauda	1.8	0.22
Cyclotella stelligera	84.7	10.30	Scenedesmus sp.	7.4	0.90
Dictyosphaerium pulchellum	1.8	0.22	Stephanodiscus minutus	0.9	0.11
Dinobryon divergens	23.0	2.80	Synedra delicatissima v. angustissima	1.8	0.22
Dinoflagellates	0.9	0.11	Synedra filiformis	2.8	0.34
Diploneis oculata	0.9	0.11	Synedra ulna v. chaseana	4.6	0.56
Flagellates	31.3	3.81	Synedra #9	0.9	0.11
Fragilaria crotonensis	39.6	4.82	Tabellaria fenestrata v. intermedia	23.0	2.80
			Total	822.6	100.0

Entrainment for August 1975, continued.

11 AUG 75 I5B 2115

Number of forms = 42
Temperature(C) = 21.5

Diversity = 3.84
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis v. constricta	1.8	0.13
Anacystis incerta	136.3	9.50
Asterionella formosa	14.7	1.03
Ceratium hirundinella	3.7	0.26
Chromulina #1	14.7	1.03
Chromulina parvula	371.9	25.93
Chroococcus dispersus	86.5	6.03
Cosmarium #1	1.8	0.13
Crucigenia quadrata	22.1	1.54
Cryptomonas sp.	1.8	0.13
Cyclotella comta	1.8	0.13
Cyclotella michiganiana	5.5	0.39
Cyclotella ocellata	12.9	0.90
Cyclotella sp.	7.4	0.51
Cyclotella stelligera	97.6	6.80
Diatoma tenue v. elongatum	1.8	0.13
Dictyosphaerium pulchellum	1.8	0.13
Dinobryon divergens	64.4	4.49
Dinoflagellates	9.2	0.64
Flagellates	57.1	3.98
Fragilaria capucina	1.8	0.13
Fragilaria crotonensis	53.4	3.72
Glenodinium sp.	5.5	0.39
Gloeocystis planctonica	44.2	3.08
Gloeocystis sp.	93.9	6.55
Gomphosphaeria lacustris	193.3	13.48
Green coccoid, unknown	16.6	1.16
Melosira granulata	5.5	0.39
Navicula cryptocephala v. intermedia	1.8	0.13
Nitzschia acicularis	3.7	0.26
Nitzschia confinis	1.8	0.13
Oocystis parva	7.4	0.51
Oscillatoria limnetica	7.4	0.51
Rhizosolenia sp.	1.8	0.13
Scenedesmus bicellularis	7.4	0.51
Scenedesmus sp.	3.7	0.26
Stephanodiscus subtilis	1.8	0.13
Stephanodiscus tenuis	1.8	0.13
Synedra filiformis	5.5	0.39
Synedra ulna v. chaseana	1.8	0.13
Tabellaria fenestrata v. intermedia	44.2	3.08
Tabellaria flocculosa	14.7	1.03
Total	1434.4	100.0

Entrainment for August 1975, continued.

11 AUG 75 DA 2115

Number of forms = 60
Temperature (C) = 30.0

Diversity = 3.71
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes sp.	0.9	0.07	Fragilaria crotonensis	66.3	5.10
Amphipleura pellucida	0.9	0.07	Glenodinium sp.	0.9	0.07
Anabaena flos-aquae	3.7	0.28	Gloeocystis planctonica	41.5	3.19
Anacystis incerta	151.1	11.61	Gloeocystis sp.	32.2	2.48
Ankistrodesmus sp.	1.8	0.14	Gomphonema sp.	0.9	0.07
Ankistrodesmus sp. #3	2.8	0.21	Gomphosphaeria lacustris	129.0	9.92
Ankistrodesmus sp.#1	0.9	0.07	Green coccoid, unknown	11.1	0.85
Asterionella formosa	13.8	1.06	Green filament, unknown	3.7	0.28
Ceratium hirundinella	0.9	0.07	Melosira granulata	7.4	0.57
Chromulina #1	21.2	1.63	Neidium #3	0.9	0.07
Chromulina #2	6.4	0.50	Nitzschia acicularis	3.7	0.28
Chromulina parvula	469.8	36.12	Nitzschia dissipata	0.9	0.07
Chroococcus dispersus	21.2	1.63	Nitzschia frustulum	0.9	0.07
Coelastrum sp.	14.7	1.13	Nitzschia kuetzingiana	0.9	0.07
Crucigenia quadrata	3.7	0.28	Nitzschia palea	0.9	0.07
Crucigenia tetrapedia	3.7	0.28	Nitzschia sp.	0.9	0.07
Cryptomonas sp.	1.8	0.14	Oocystis parva	3.7	0.28
Cryptophycean flagellates	1.8	0.14	Oocystis sp.	11.1	0.85
Cyclotella atomus	0.9	0.07	Oscillatoria limnetica	1.8	0.14
Cyclotella comta	1.8	0.14	Oscillatoria sp.	2.8	0.21
Cyclotella meneghiniana	0.9	0.07	Peridinium sp.	1.8	0.14
Cyclotella michiganiana	11.1	0.85	Scenedesmus bicellularis	20.3	1.56
Cyclotella ocellata	7.4	0.57	Scenedesmus sp.	18.4	1.42
Cyclotella sp.	0.9	0.07	Stephanodiscus alpinus	0.9	0.07
Cyclotella stelligera	79.2	6.09	Stephanodiscus subtilis	0.9	0.07
Diatoma tenue v. elongatum	0.9	0.07	Stephanodiscus tenuis	0.9	0.07
Dictyosphaerium pulchellum	12.9	0.99	Synedra demerarae	0.9	0.07
Dinobryon divergens	23.0	1.77	Synedra filiformis	2.8	0.21
Dinoflagellates	10.1	0.78	Tabellaria fenestrata v. intermedia	27.6	2.12
Flagellates	30.4	2.34	Ulothrix sp.	3.7	0.28
			Total	1300.7	100.0

Entrainment for August 1975, continued.

11 AUG 75 DB 2115

Number of forms = 51
Temperature (C) = 30.0

Diversity = 3.84
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	0.9	0.10
Anabaena flos-aquae	1.8	0.20
Anacystis incerta	105.0	11.18
Ankistrodesmus falcatus	0.9	0.10
Ankistrodesmus sp.#1	3.7	0.39
Asterionella formosa	8.3	0.88
Chromulina #1	11.1	1.18
Chromulina #2	5.5	0.59
Chromulina parvula	277.3	29.51
Chroococcus dispersus	41.5	4.41
Closteriopsis sp.	0.9	0.10
Cosmarium #1	1.8	0.20
Crucigenia quadrata	12.9	1.37
Cryptomonas sp.	2.8	0.29
Cyclotella comta	1.8	0.20
Cyclotella michiganiana	11.1	1.18
Cyclotella ocellata	8.3	0.88
Cyclotella sp.	2.8	0.29
Cyclotella stelligera	105.0	11.18
Cymbella sp.	0.9	0.10
Diatoma tenue v. elongatum	0.9	0.10
Dictyosphaerium pulchellum	11.1	1.18
Dinobryon divergens	35.0	3.73
Dinoflagellates	2.8	0.29
Flagellates	76.5	8.14
Fragilaria crotonensis	3.7	0.39
Gloeocystis planctonica	18.4	1.96
Gloeocystis sp.	66.3	7.06
Gomphosphaeria lacustris	9.2	0.98
Green coccoid, unknown	18.4	1.96
Melosira granulata	2.8	0.29
Navicula decussis	1.8	0.20
Nitzschia acicularis	6.4	0.69
Nitzschia dissipata	0.9	0.10
Nitzschia kuetzingiana	0.9	0.10
Nitzschia palea	0.9	0.10
Nitzschia sp.	0.9	0.10
Oocystis parva	1.8	0.20
Oocystis sp.	1.8	0.20
Oscillatoria limnetica	0.9	0.10
Rhizosolenia sp.	0.9	0.10
Scenedesmus arcuatus	6.4	0.69
Scenedesmus bicellularis	9.2	0.98
Scenedesmus quadricauda v. longispina	3.7	0.39
Scenedesmus sp.	15.7	1.67
Stephanodiscus alpinus	0.9	0.10
Stephanodiscus minutus	0.9	0.10
Stephanodiscus tenuis	1.8	0.20
Synedra filiformis	3.7	0.39
Tabellaria fenestrata v. intermedia	28.6	3.04
Ulothrix sp.	1.8	0.20
Total	939.6	100.0

Entrainment for August 1975, continued.

12 AUG 75 I5A 0455

Number of forms = 46
Temperature (C) = 22.0

Diversity = 3.95
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphipleura pellucida	0.9	0.12
Anacystis incerta	146.5	18.76
Anacystis thermalis	58.0	7.43
Ankistrodesmus falcatus	0.9	0.12
Ankistrodesmus sp.#1	5.5	0.71
Asterionella formosa	6.4	0.83
Blue-green unknown cells	0.9	0.12
Chromulina #1	3.7	0.47
Chromulina #2	6.4	0.83
Chromulina parvula	99.5	12.74
Chroococcus dispersus	24.9	3.19
Crucigenia quadrata	0.4	0.05
Crucigenia tetrapedia	3.7	0.47
Cryptomonas sp.	11.1	1.42
Cryptophycean flagellates	1.8	0.24
Cyclotella atomus	0.9	0.12
Cyclotella meneghiniana	0.9	0.12
Cyclotella michiganiana	12.0	1.53
Cyclotella ocellata	4.6	0.59
Cyclotella sp.	0.9	0.12
Cyclotella stelligera	80.1	10.27
Diatoma tenue v. elongatum	0.9	0.12
Dinobryon divergens	34.1	4.37
Dinobryon flagellates	2.8	0.35
Dinoflagellates	3.7	0.47
Flagellates	98.6	12.63
Fragilaria construens v. venter	0.9	0.12
Fragilaria crotonensis	13.8	1.77
Glenodinium sp.	3.7	0.47
Gloeocystis planctonica	25.8	3.30
Gloeocystis sp.	60.8	7.79
Green coccoid, unknown	4.6	0.59
Nitzschia acicularis	1.8	0.24
Nitzschia paleacea	0.9	0.12
Oocystis parva	5.5	0.71
Oscillatoria sp.	0.9	0.12
Peridinium sp.	0.9	0.12
Scenedesmus bicellularis	7.4	0.94
Scenedesmus quadricauda	1.8	0.24
Scenedesmus sp.	7.4	0.94
Stephanodiscus alpinus	0.9	0.12
Stephanodiscus minutus	1.8	0.24
Synedra delicatissima v. angustissima	0.9	0.12
Synedra fasciculata	0.9	0.12
Synedra filiformis	0.9	0.12
Tabellaria fenestrata v. intermedia	28.6	3.66
Total	780.6	100.0

Entrainment for August 1975, continued.

12 AUG 75 I5B 0455

Number of forms = 46
Temperature (C) = 22.0

Diversity = 3.69
Counted by: D.B.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	7.4	0.54	Glenodinium sp.	1.8	0.13
Ankistrodesmus sp.	5.5	0.40	Gloeocystis planctonica	82.9	6.02
Asterionella formosa	18.4	1.34	Gloeocystis sp.	82.9	6.02
Ceratium hirundinella	5.5	0.40	Green coccoid, unknown	14.7	1.07
Chromulina #1	25.8	1.87	Navicula sp.	1.8	0.13
Chromulina #2	22.1	1.61	Nitzschia acicularis	1.8	0.13
Chromulina parvula	397.7	28.92	Nitzschia kuetzingiana	1.8	0.13
Chroococcus dispersus	53.4	3.88	Nitzschia paleacea	1.8	0.13
Closteriopsis longissima	1.8	0.13	Nitzschia sp.	1.8	0.13
Crucigenia quadrata	11.0	0.80	Oscillatoria sp.	3.7	0.27
Crucigenia tetrapedia	7.4	0.54	Pediastrum clathratum v. punctatum	18.4	1.34
Cryptomonas sp.	14.7	1.07	Peridinium sp.	3.7	0.27
Cryptophycean flagellates	9.2	0.67	Rhizosolenia gracilis	3.7	0.27
Cyclotella comta	1.8	0.13	Scenedesmus bicellularis	14.7	1.07
Cyclotella kuetzingiana	1.8	0.13	Scenedesmus quadricauda v. longispina	7.4	0.54
Cyclotella michiganiana	12.9	0.94	Scenedesmus sp.	18.4	1.34
Cyclotella ocellata	12.9	0.94	Stephanodiscus minutus	1.8	0.13
Cyclotella sp.	5.5	0.40	Stephanodiscus sp.	3.7	0.27
Cyclotella stelligera	163.9	11.91	Stephanodiscus subtilis	3.7	0.27
Dinobryon divergens	38.7	2.81	Stephanodiscus tenuis	1.8	0.13
Dinoflagellates	3.7	0.27	Synedra filiformis	1.8	0.13
Flagellates	252.3	18.34	Synedra ulna v. chaseana	3.7	0.27
Fragilaria crotonensis	9.2	0.67	Tabellaria fenestrata v. intermedia	14.7	1.07
			Total	1375.4	100.0

Entrainment for August 1975, continued.

12 AUG 75 DA 0455

Number of forms = 52
Temperature(C) = 30.5

Diversity = 4.68
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.20	Navicula sp.	3.7	0.20
Anabaena flos-aquae	22.1	1.18	Nitzschia dissipata	3.7	0.20
Anacystis thermalis	29.5	1.57	Nitzschia palea	3.7	0.20
Ankistrodesmus sp.	3.7	0.20	Nitzschia sp. #1	3.7	0.20
Ankistrodesmus sp.#1	7.4	0.39	Ochromonas sp.	47.9	2.55
Asterionella formosa	22.1	1.18	Oocystis sp.	25.8	1.37
Centric diatom, unknown	7.4	0.39	Oscillatoria limnetica	3.7	0.20
Chromulina #2	58.9	3.14	Oscillatoria sp.	7.4	0.39
Chromulina parvula	70.0	3.73	Pediastrum duplex v reticulatum	25.8	1.37
Crucigenia quadrata	58.9	3.14	Peridinium sp.	11.0	0.59
Cryptomonas sp.	14.7	0.78	Rhizosolenia eriensis	3.7	0.20
Cyclotella comensis	25.8	1.37	Scenedesmus acuminatus	29.5	1.57
Cyclotella michiganiana	7.4	0.39	Scenedesmus bicellularis	22.1	1.18
Cyclotella sp.	81.0	4.31	Scenedesmus quadricauda v. longispina	66.3	3.53
Cyclotella stelligera	70.0	3.73	Scenedesmus quadricauda	29.5	1.57
Dinobryon divergens	40.5	2.16	Scenedesmus sp.	14.7	0.78
Dinoflagellates	7.4	0.39	Scenedesmus tetradesmiformis	29.5	1.57
Flagellates	162.0	8.63	Stephanodiscus minutus	3.7	0.20
Fragilaria capucina v. lanceolata	7.4	0.39	Stephanodiscus sp.	3.7	0.20
Fragilaria crotonensis	77.3	4.12	Stephanodiscus subtilis	11.0	0.59
Glenodinium sp.	3.7	0.20	Stephanodiscus tenuis	11.0	0.59
Gloeocystis planctonica	154.7	8.24	Synedra delicatissima v. angustissima	18.4	0.98
Gloeocystis sp.	342.5	18.24	Synedra filiformis	11.0	0.59
Green coccoid, unknown	40.5	2.16	Synedra tenera	3.7	0.20
Melosira granulata	106.8	5.69	Tabellaria fenestrata v. intermedia	36.8	1.96
Melosira italica	14.7	0.78	Tabellaria flocculosa	7.4	0.39
			Total	1878.1	100.0

Entrainment for August 1975, continued.

12 AUG 75 DB 0455

Number of forms = 39
Temperature (C) = 30.5

Diversity = 3.50
Counted by: D.R.

Taxon	Cells/ml	Percent
Anabaena flos-aquae	7.4	0.47
Anacystis incerta	500.8	32.08
Asterionella formosa	5.5	0.35
Chromulina #1	5.5	0.35
Chromulina #2	3.7	0.24
Chromulina parvula	97.6	6.25
Chroococcus dispersus	49.7	3.18
Cryptomonas sp.	11.0	0.71
Cryptophycean flagellates	7.4	0.47
Cyclotella comta	1.8	0.12
Cyclotella meneghiniana	1.8	0.12
Cyclotella michiganiana	1.8	0.12
Cyclotella ocellata	9.2	0.59
Cyclotella sp.	3.7	0.24
Cyclotella stelligera	134.4	8.61
Diatoma tenue v. elongatum	1.8	0.12
Dictyosphaerium pulchellum	29.5	1.89
Dinobryon divergens	12.9	0.83
Dinoflagellates	7.4	0.47
Flagellates	222.8	14.27
Fragilaria crotonensis	62.6	4.01
Glenodinium sp.	1.8	0.12
Gloeocystis planctonica	51.6	3.30
Gloeocystis sp.	174.9	11.20
Green coccoid, unknown	42.3	2.71
Melosira granulata	9.2	0.59
Navicula costulata	1.8	0.12
Navicula simplex	1.8	0.12
Nitzschia acicularis	3.7	0.24
Nitzschia recta	1.8	0.12
Oocystis parva	33.1	2.12
Oscillatoria sp.	1.8	0.12
Peridinium sp.	7.4	0.47
Scenedesmus bicellularis	11.0	0.71
Scenedesmus quadricauda	3.7	0.24
Stephanodiscus minutus	3.7	0.24
Stephanodiscus sp.	3.7	0.24
Synedra filiformis	1.8	0.12
Tabellaria fenestrata v. intermedia	27.6	1.77
Total	1561.4	100.0

12 AUG 75 I5A 1105

Number of forms = 33
Temperature (C) = 22.8

Diversity = 2.75
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	197.0	14.86
Ankistrodesmus sp.#1	3.7	0.28
Ceratium hirundinella	1.8	0.14
Chromulina #1	20.3	1.53
Chromulina #2	3.7	0.28
Chromulina parvula	657.3	49.58
Chroococcus dispersus	64.4	4.86
Crucigenia quadrata	7.4	0.56
Crucigenia tetrapedia	7.4	0.56
Cryptomonas sp.	0.2	0.01
Cryptophycean flagellates	5.5	0.42
Cyclotella comensis	1.8	0.14
Cyclotella michiganiana	1.8	0.14
Cyclotella ocellata	3.7	0.28
Cyclotella stelligera	36.8	2.78
Diatoma tenue v. elongatum	1.8	0.14
Dictyosphaerium pulchellum	18.4	1.39
Dinobryon divergens	7.4	0.56
Dinoflagellates	12.9	0.97
Flagellates	40.5	3.06
Glenodinium sp.	1.8	0.14
Gloeocystis planctonica	62.6	4.72
Gloeocystis sp.	121.5	9.17
Green coccoid, unknown	12.9	0.97
Nitzschia paleacea	1.8	0.14
Oocystis sp.	3.7	0.28
Peridinium sp.	3.7	0.28
Scenedesmus bicellularis	7.4	0.56
Stephanodiscus subtilis	1.8	0.14
Synedra acus	1.8	0.14
Synedra filiformis	1.8	0.14
Synedra sp.	1.8	0.14
Tabellaria fenestrata v. intermedia	9.2	0.69
Total	1325.9	100.0

12 AUG 75 I5B 1105

Number of forms = 40
Temperature(C) = 22.8

Diversity = 2.80
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes lanceolata v. omissa	0.9	0.08	Dinobryon divergens	10.1	0.91
Amphipleura pellucida	0.9	0.08	Dinoflagellates	4.6	0.41
Anabaena flos-aquae	2.8	0.25	Flagellates	71.8	6.45
Anacystis incerta	219.2	19.69	Fragilaria crotonensis	2.8	0.25
Ankistrodesmus falcatus	0.9	0.08	Glenodinium sp.	0.9	0.08
Ankistrodesmus sp.#1	2.8	0.25	Gloeocystis planctonica	22.1	1.99
Asterionella formosa	0.9	0.08	Gloeocystis sp.	125.3	11.25
Ceratium hirundinella	0.9	0.08	Green coccoid, unknown	10.1	0.91
Chromulina #1	12.0	1.08	Melosira granulata	0.9	0.08
Chromulina #2	4.6	0.41	Navicula sp.	0.9	0.08
Chromulina parvula	491.9	44.17	Nitzschia frustulum	0.9	0.08
Chroococcus dispersus	39.6	3.56	Nitzschia sp.	1.8	0.17
Crucigenia quadrata	3.7	0.33	Oocystis sp.	4.6	0.41
Cryptomonas sp.	0.9	0.08	Peridinium sp.	2.8	0.25
Cryptophycean flagellates	1.8	0.17	Scenedesmus bicellularis	1.8	0.17
Cyclotella michiganiana	3.7	0.33	Scenedesmus quadricauda	3.7	0.33
Cyclotella ocellata	2.8	0.25	Scenedesmus sp.	5.5	0.50
Cyclotella sp.	3.7	0.33	Synedra filiformis	1.8	0.17
Cyclotella stelligera	37.8	3.39	Tabellaria fenestrata v. intermedia	6.4	0.58
Diatoma tenue v. elongatum	1.8	0.17	Tetraedron caudatum v. longispina	0.9	0.08
			Total	1113.7	100.0

12 AUG 75 DA 1105

Number of forms = 32
Temperature(C) = 32.0

Diversity = 2.84
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	467.7	30.94	Flagellates	86.5	5.72
Asterionella formosa	3.7	0.24	Gloeocystis planctonica	29.5	1.95
Ceratium hirundinella	1.8	0.12	Gloeocystis sp.	51.6	3.41
Chromulina #1	1.8	0.12	Gomphonema sp.	1.8	0.12
Chromulina #2	5.5	0.37	Gomphosphaeria lacustris	92.1	6.09
Chromulina parvula	534.0	35.32	Green coccoid, unknown	14.7	0.97
Chroococcus dispersus	44.2	2.92	Navicula sp.	1.8	0.12
Cryptomonas sp.	18.4	1.22	Nitzschia acicularis	3.7	0.24
Cryptophycean flagellates	3.7	0.24	Oocystis sp.	7.4	0.49
Cyclotella michiganiana	5.5	0.37	Oscillatoria limnetica	1.8	0.12
Cyclotella ocellata	3.7	0.24	Oscillatoria sp.	7.4	0.49
Cyclotella sp.	1.8	0.12	Rhizosolenia eriensis	1.8	0.12
Cyclotella stelligera	70.0	4.63	Scenedesmus sp.	7.4	0.49
Dictyosphaerium pulchellum	25.8	1.71	Stephanodiscus alpinus	1.8	0.12
Dinobryon divergens	9.2	0.61	Synedra sp.	1.8	0.12
Dinoflagellates	1.8	0.12	Tabellaria fenestrata v. intermedia	1.8	0.12
			Total	1511.7	100.0

Entrainment for August 1975, continued.

12 AUG 75 DB 1105

Number of forms = 49
Temperature (C) = 32.0

Diversity = 3.47
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	0.9	0.08
Amphora calumetica	1.8	0.16
Anabaena flos-aquae	16.6	1.40
Anacystis incerta	40.5	3.43
Ankistrodesmus sp.	0.9	0.08
Asterionella formosa	0.9	0.08
Ceratium hirundinella	6.4	0.55
Chromulina #1	9.2	0.78
Chromulina parvula	384.1	32.48
Chroococcus dispersus	55.3	4.67
Crucigenia quadrata	3.7	0.31
Cryptomonas sp.	2.8	0.23
Cyclotella comta	0.9	0.08
Cyclotella michiganiana	2.8	0.23
Cyclotella ocellata	1.8	0.16
Cyclotella sp.	0.9	0.08
Cyclotella stelligera	58.0	4.91
Dictyosphaerium pulchellum	4.6	0.39
Dinobryon divergens	12.9	1.09
Dinoflagellates	4.6	0.39
Flagellates	26.7	2.26
Fragilaria crotonensis	104.1	8.80
Glenodinium sp.	1.8	0.16
Gloeocystis planctonica	25.8	2.18
Gloeocystis sp.	143.7	12.15
Gomphosphaeria lacustris	73.7	6.23
Green coccoid, unknown	16.6	1.40
Green filament, unknown	0.9	0.08
Melosira granulata	4.6	0.39
Navicula capitata	0.9	0.08
Navicula capitata v. luneburgensis	1.8	0.16
Navicula menisculus v. upsaliensis	0.9	0.08
Navicula menisculus	0.9	0.08
Nitzschia acicularis	0.9	0.08
Nitzschia paleacea	0.9	0.08
Nitzschia sp.	0.9	0.08
Nitzschia sp. #18	0.9	0.08
Nitzschia sp. #1	0.9	0.08
Oscillatoria limnetica	0.9	0.08
Oscillatoria sp.	0.9	0.08
Scenedesmus bicellularis	1.8	0.16
Stephanodiscus alpinus	0.9	0.08
Stephanodiscus subtilis	0.9	0.08
Stephanodiscus tenuis	0.9	0.08
Synedra filiformis	0.9	0.08
Synura sp.	147.4	12.46
Tabellaria fenestrata v. intermedia	6.4	0.55
Tetraedron caudatum v. longispina	0.9	0.08
Tetrastrum staurogeniaeforme	3.7	0.31
Total	1182.8	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for September 1975.

8 SEP 75 I5 2037

Number of forms = 51
Temperature (C) = 19.5

Diversity = 3.41
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphora sp.	5.5	0.16
Anabaena flos-aquae	23.9	0.71
Anacystis incerta	1334.9	39.60
Anacystis thermalis	206.2	6.12
Ankistrodesmus sp.	1.8	0.05
Asterionella formosa	16.6	0.49
Bitrichia sp.	1.8	0.05
Centric diatom, unknown	22.1	0.66
Chromulina #1	9.2	0.27
Chromulina #2	73.7	2.18
Chromulina parvula	79.2	2.35
Chrysophycean flagellate spp.	158.4	4.70
Cryptomonas sp.	57.1	1.69
Cryptophycean flagellates	1.8	0.05
Cyclotella kuetzingiana	9.2	0.27
Cyclotella meneghiniana	1.8	0.05
Cyclotella ocellata	3.7	0.11
Cyclotella sp.	3.7	0.11
Dinobryon divergens	3.7	0.11
Flagellates	348.0	10.32
Fragilaria construens	20.3	0.60
Fragilaria crotonensis	331.4	9.83
Fragilaria pinnata	3.7	0.11
Fragilaria sp.	3.7	0.11
Gloeocystis planctonica	138.1	4.10
Gloeocystis sp.	70.0	2.08
Gomphosphaeria lacustris	46.0	1.37
Green coccoid, unknown	42.3	1.26
Melosira italica	9.2	0.27
Melosira sp.	1.8	0.05
Navicula aurora	1.8	0.05
Navicula capitata	1.8	0.05
Navicula capitata v. luneburgensis	1.8	0.05
Navicula cryptocephala	1.8	0.05
Nitzschia acicularis	3.7	0.11
Nitzschia paleacea	3.7	0.11
Nitzschia sp.	12.9	0.38
Nitzschia sp. #1	5.5	0.16
Ochromonas sp.	184.1	5.46
Oscillatoria sp.	1.8	0.05
Scenedesmus bicellularis	7.4	0.22
Scenedesmus quadricauda v. longispina	14.7	0.44
Stephanodiscus alpinus	12.9	0.38
Stephanodiscus minutus	3.7	0.11
Stephanodiscus sp.	16.6	0.49
Synedra demerarae	1.8	0.05
Synedra filiformis	1.8	0.05
Synedra sp.	1.8	0.05
Synedra ulna v. chaseana	1.8	0.05
Tabellaria fenestrata v. intermedia	58.9	1.75
Tabellaria flocculosa	1.8	0.05
Total	3371.4	100.0

Entrainment for September 1975, continued.

8 SEP 75 D 2037

Number of forms = 63
Temperature (C) = 28.5

Diversity = 4.10
Counted by: S.W.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	1.8	0.06
Achnanthes minutissima	1.8	0.06
Amphipleura pellucida	5.5	0.19
Amphora ovalis	1.8	0.06
Amphora ovalis v. pediculus	1.8	0.06
Amphora sp.	5.5	0.19
Anacystis incerta	359.1	12.37
Anacystis thermalis	206.2	7.11
Ankistrodesmus sp. #3	5.5	0.19
Asterionella formosa	27.6	0.95
Caloneis ventricosa v. minuta	1.8	0.06
Chromulina #1	25.8	0.89
Chromulina #2	127.0	4.38
Chrysophycean flagellate spp.	103.1	3.55
Cryptomonas sp.	11.0	0.38
Cyclotella kuetzingiana	3.7	0.13
Cyclotella meneghiniana v. plana	1.8	0.06
Cyclotella michiganiana	1.8	0.06
Cyclotella ocellata	5.5	0.19
Cyclotella sp.	14.7	0.51
Cyclotella stelligera	3.7	0.13
Dinobryon divergens	3.7	0.13
Dinoflagellates	1.8	0.06
Flagellates	147.3	5.08
Fragilaria construens	29.5	1.02
Fragilaria crotonensis	359.1	12.37
Fragilaria sp.	5.5	0.19
Gloeocystis planctonica	125.2	4.31
Gloeocystis sp.	110.5	3.81
Gomphosphaeria lacustris	561.6	19.35
Green coccoid, unknown	31.3	1.08
Melosira granulata	18.4	0.63
Navicula costulata	3.7	0.13
Navicula cryptocephala	1.8	0.06
Navicula decussis	1.8	0.06
Navicula latens	1.8	0.06
Navicula menisculus v. upsaliensis	1.8	0.06
Navicula sp.	9.2	0.32
Nitzschia #6	1.8	0.06
Nitzschia acicularis	1.8	0.06
Nitzschia acuta	1.8	0.06
Nitzschia fonticola	1.8	0.06
Nitzschia paleacea	9.2	0.32
Nitzschia sp.	40.5	1.40
Nitzschia sp. #1	1.8	0.06
Ochromonas sp.	211.7	7.30
Peridinium sp.	1.8	0.06
Rhizosolenia eriensis	3.7	0.13
Scenedesmus acuminatus	5.5	0.19
Scenedesmus bicellularis	11.0	0.38
Scenedesmus quadricauda v. longispina	7.4	0.25
Scenedesmus sp.	14.7	0.51
Scenedesmus spinosus	14.7	0.51
Stephanodiscus alpinus	23.9	0.82
Stephanodiscus minutus	9.2	0.32
Stephanodiscus sp.	33.1	1.14
Stephanodiscus tenuis	3.7	0.13
Synedra filiformis	5.5	0.19
Synedra sp.	1.8	0.06
Tabellaria fenestrata	7.4	0.25
Tabellaria fenestrata v. intermedia	152.8	5.27
Tabellaria flocculosa	1.8	0.06
Tetraedron minimum	1.8	0.06
Total	2901.9	100.0

Entrainment for September 1975, continued.

9 SEP 75 I5A 0515

Number of forms = 48
Temperature(C) = 19.5

Diversity = 4.14
Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.12	Gloeocystis sp.	16.6	1.07
Anacystis incerta	202.5	13.08	Gomphosphaeria lacustris	184.1	11.89
Anacystis thermalis	117.8	7.61	Green coccoid, unknown	25.8	1.66
Ankistrodesmus sp. #3	3.7	0.24	Melosira granulata	7.4	0.48
Asterionella formosa	14.7	0.95	Melosira italica	1.8	0.12
Bitrichia sp.	1.8	0.12	Navicula capitata	1.8	0.12
Chromulina #1	9.2	0.59	Navicula gregaria	1.8	0.12
Chromulina #2	84.7	5.47	Nephrocytium limneticum	3.7	0.24
Chrysophycean flagellate spp.	73.7	4.76	Nephrocytium obesum	5.5	0.36
Crucigenia quadrata	55.2	3.57	Nitzschia acicularis	7.4	0.48
Cryptomonas sp.	46.0	2.97	Nitzschia dissipata	1.8	0.12
Cyclotella kuetzingiana	1.8	0.12	Nitzschia fonticola	1.8	0.12
Cyclotella michiganiana	5.5	0.36	Nitzschia kuetzingiana	1.8	0.12
Cyclotella ocellata	11.0	0.71	Nitzschia paleacea	3.7	0.24
Cyclotella sp.	7.4	0.48	Nitzschia sp.	1.8	0.12
Cyclotella stelligera	7.4	0.48	Ochromonas sp.	147.3	9.51
Dinobryon divergens	11.0	0.71	Scenedesmus bicellularis	7.4	0.48
Flagellates	259.6	16.77	Stephanodiscus alpinus	11.0	0.71
Fragilaria capucina v. lanceolata	18.4	1.19	Stephanodiscus minutus	1.8	0.12
Fragilaria crotonensis	57.1	3.69	Stephanodiscus sp.	9.2	0.59
Fragilaria pinnata	9.2	0.59	Synedra demerarae	1.8	0.12
Fragilaria sp.	1.8	0.12	Synedra filiformis	1.8	0.12
Fragilaria vaucheriae	1.8	0.12	Synura sp.	46.0	2.97
Gloeocystis planctonica	27.6	1.78	Tabellaria fenestrata v. intermedia	23.9	1.55
			Total	1548.5	100.0

Entrainment for September 1975, continued.

9 SEP 75 I5B 0515

Number of forms = 42
Temperature(C) = 19.5

Diversity = 3.44
Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora sp.	1.8	0.06	Green coccoid, unknown	11.0	0.37
Anabaena flos-aquae	12.9	0.43	Melosira granulata	1.8	0.06
Anacystis incerta	635.2	21.34	Melosira italica	7.4	0.25
Anacystis thermalis	239.4	8.04	Navicula capitata	1.8	0.06
Ankistrodesmus sp. #3	3.7	0.12	Navicula micropupula	1.8	0.06
Asterionella formosa	33.1	1.11	Nitzschia acicularis	9.2	0.31
Ceratium hirundinella	1.8	0.06	Nitzschia capitellata	1.8	0.06
Chromulina #2	110.5	3.71	Nitzschia paleacea	3.7	0.12
Chromulina parvula	1.8	0.06	Nitzschia spiculoides	1.8	0.06
Chrysophycean flagellate spp.	110.5	3.71	Nitzschia sp.	3.7	0.12
Cryptomonas sp.	86.5	2.91	Ochromonas sp.	281.7	9.46
Cyclotella ocellata	11.0	0.37	Rhizosolenia eriensis	1.8	0.06
Cyclotella sp.	1.8	0.06	Scenedesmus acuminatus	14.7	0.49
Cyclotella stelligera	5.5	0.19	Scenedesmus bicellularis	3.7	0.12
Dinobryon divergens	1.8	0.06	Scenedesmus quadricauda	3.7	0.12
Dinoflagellates	5.5	0.19	Scenedesmus sp.	3.7	0.12
Flagellates	484.3	16.26	Sphaerocystis sp.	18.4	0.62
Fragilaria crotonensis	35.0	1.18	Stephanodiscus alpinus	3.7	0.12
Gloeocystis planctonica	92.1	3.09	Stephanodiscus minutus	9.2	0.31
Gloeocystis sp.	31.3	1.05	Stephanodiscus sp.	5.5	0.19
Gomphosphaeria lacustris	616.8	20.72	Tabellaria fenestrata v. intermedia	64.4	2.16
			Total	2977.4	100.0

Entrainment for September 1975, continued.

9 SEP 75 DA 0515

Number of forms = 39
Temperature(C) = 28.5

Diversity = 3.62
Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis	1.8	0.09	Green coccoid, unknown	22.1	1.12
Amphora sp.	1.8	0.09	Melosira granulata	5.5	0.28
Anabaena flos-aquae	95.7	4.84	Melosira italica	11.0	0.56
Anacystis incerta	497.2	25.14	Navicula latens	1.8	0.09
Anacystis thermalis	313.0	15.83	Navicula platystoma v. pantocsekii	1.8	0.09
Asterionella formosa	12.9	0.65	Nitzschia confinis	1.8	0.09
Chromulina #1	3.7	0.19	Nitzschia sp.	1.8	0.09
Chromulina #2	51.6	2.61	Nitzschia sp. #1	1.8	0.09
Chrysophycean flagellate spp.	79.2	4.00	Ochromonas sp.	118.0	5.97
Cryptomonas sp.	40.5	2.05	Peridinium sp.	7.4	0.37
Cyclotella michiganiana	3.7	0.19	Scenedesmus spinosus	3.7	0.19
Cyclotella sp.	3.7	0.19	Stephanodiscus alpinus	3.7	0.19
Cyclotella stelligera	3.7	0.19	Stephanodiscus minutus	1.8	0.09
Dinobryon divergens	3.7	0.19	Stephanodiscus sp.	9.2	0.47
Dinoflagellates	11.0	0.56	Stephanodiscus tenuis	1.8	0.09
Flagellates	233.8	11.82	Synedra filiformis	5.5	0.28
Fragilaria crotonensis	191.5	9.68	Tabellaria fenestrata	1.8	0.09
Gloeocystis planctonica	53.4	2.70	Tabellaria fenestrata v. intermedia	73.7	3.72
Gloeocystis sp.	22.1	1.12	Tetraedron minimum	5.5	0.28
Gomphosphaeria lacustris	73.7	3.72			
			Total	1977.7	100.0

Entrainment for September 1975, continued.

9 SEP 75 DB 0515

Number of forms = 38
Temperature(C) = 28.5

Diversity = 3.13
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.08
Amphiprora ornata	1.8	0.08
Amphora ovalis v. pediculus	1.8	0.08
Amphora #3	1.8	0.08
Anacystis incerta	999.2	44.02
Anacystis thermalis	147.3	6.49
Asterionella formosa	22.1	0.97
Chromulina #2	12.9	0.57
Chrysophycean flagellate spp.	51.6	2.27
Cruciqenia quadrata	14.7	0.65
Cryptomonas sp.	62.6	2.76
Cyclotella kuetzingiana	3.7	0.16
Cyclotella ocellata	5.5	0.24
Cyclotella stelligera	5.5	0.24
Dinobryon divergens	1.8	0.08
Flagellates	197.0	8.68
Fragilaria brevistriata v. inflata	18.4	0.81
Fragilaria crotonensis	105.0	4.62
Fragilaria pinnata	14.7	0.65
Gloeocystis planctonica	36.8	1.62
Gloeocystis sp.	97.6	4.30
Gomphosphaeria lacustris	119.7	5.27
Green coccoid, unknown	16.6	0.73
Melosira granulata	5.5	0.24
Melosira italica	3.7	0.16
Navicula cryptocephala v. intermedia	1.8	0.08
Nitzschia acicularis	1.8	0.08
Nitzschia sp.	3.7	0.16
Ochromonas sp.	241.2	10.63
Rhizosolenia eriensis	3.7	0.16
Scenedesmus quadricauda v. longispina	14.7	0.65
Scenedesmus spinosus	3.7	0.16
Stephanodiscus alpinus	7.4	0.32
Stephanodiscus minutus	1.8	0.08
Stephanodiscus sp.	14.7	0.65
Synedra demerarae	1.8	0.08
Synedra filiformis	3.7	0.16
Tabellaria fenestrata v. intermedia	20.3	0.89
Total	2269.7	100.0

9 SEP 75 I5A 1115

Number of forms = 43
Temperature(C) = 19.5

Diversity = 2.85
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphora ovalis v. libyca	1.8	0.08
Anacystis incerta	1233.7	50.45
Anacystis thermalis	169.4	6.93
Ankistrodesmus falcatus	1.8	0.08
Asterionella formosa	11.0	0.45
Centric diatom, unknown	3.7	0.15
Chromulina #1	18.4	0.75
Chromulina #2	116.0	4.74
Cruciqenia tetrapedia	7.4	0.30
Cryptophycean flagellates	42.3	1.73
Cyclotella cryptica	1.8	0.08
Cyclotella kuetzingiana	1.8	0.08
Cyclotella ocellata	5.5	0.23
Cyclotella operculata	1.8	0.08
Cyclotella sp.	5.5	0.23
Cyclotella stelligera	14.7	0.60
Dinobryon divergens	1.8	0.08
Dinoflagellates	1.8	0.08
Flagellates	116.0	4.74
Fragilaria crotonensis	64.4	2.64
Fragilaria vaucheriae	1.8	0.08
Gloeocystis planctonica	12.9	0.53
Gloeocystis sp.	40.5	1.66
Gomphosphaeria lacustris	303.8	12.42
Green coccoid, unknown	14.7	0.60
Melosira granulata	11.0	0.45
Navicula capitata	1.8	0.08
Nephrocytium obesum	3.7	0.15
Nitzschia confinis	1.8	0.08
Nitzschia dissipata	1.8	0.08
Nitzschia sp.	5.5	0.23
Ochromonas sp.	125.2	5.12
Scenedesmus bicellularis	16.6	0.68
Stephanodiscus alpinus	3.7	0.15
Stephanodiscus minutus	1.8	0.08
Stephanodiscus sp.	9.2	0.38
Stephanodiscus subtilis	3.7	0.15
Synedra demerarae	3.7	0.15
Synedra filiformis	1.8	0.08
Synedra ostenfeldii	1.8	0.08
Synedra sp.	1.8	0.08
Tabellaria fenestrata v. intermedia	53.4	2.18
Tetraedron caudatum	1.8	0.08
Total	2445.2	100.0

9 SEP 75 I5B 1115

Number of forms = 25
Temperature(C) = 19.5

Diversity = 2.24
Counted by: S.K.

Taxon	Cells/ml	Percent
Anacystis incerta	1427.0	62.45
Anacystis thermalis	221.0	9.67
Asterionella formosa	12.9	0.56
Chrysophycean flagellate spp.	60.8	2.66
Cryptomonas sp.	22.1	0.97
Cyclotella kuetzingiana	1.8	0.08
Cyclotella michiganiana	1.8	0.08
Cymatopleura solea	1.8	0.08
Dinoflagellates	12.9	0.56
Flagellates	123.4	5.40
Fragilaria capucina v. lanceolata	64.4	2.82
Fragilaria crotonensis	29.5	1.29
Gloeocystis planctonica	134.4	5.88
Gloeocystis sp.	12.9	0.56
Melosira granulata	22.1	0.97
Nitzschia dissipata	3.7	0.16
Nitzschia kuetzingiana	1.8	0.08
Nitzschia sp.	1.8	0.08
Ochromonas sp.	60.8	2.66
Rhizosolenia gracilis	9.2	0.40
Stephanodiscus alpinus	1.8	0.08
Stephanodiscus minutus	7.4	0.32
Stephanodiscus tenuis	3.7	0.16
Synedra filiformis	3.7	0.16
Tabellaria fenestrata v. intermedia	42.3	1.85
Total	2285.0	100.0

Entrainment for September 1975, continued.

9 SEP 75 DA 1115

Number of forms = 43
Temperature (C) = 28.0

Diversity = 3.78
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.18
Anacystis incerta	294.6	28.07
Anacystis thermalis	121.5	11.58
Ankistrodesmus falcatus	1.8	0.18
Ankistrodesmus sp. #3	1.8	0.18
Asterionella formosa	1.8	0.18
Bitrichia sp.	1.8	0.18
Chromulina #1	16.6	1.58
Chromulina #2	75.5	7.19
Chrysophycean flagellate spp.	84.7	8.07
Cryptomonas sp.	1.8	0.18
Cyclotella michiganiana	1.8	0.18
Cyclotella ocellata	1.8	0.18
Cyclotella sp.	5.5	0.53
Cyclotella stelligera	1.8	0.18
Dinobryon divergens	3.7	0.35
Dinoflagellates	1.8	0.18
Flagellates	116.0	11.05
Fragilaria crotonensis	29.5	2.81
Gloeocystis planctonica	55.2	5.26
Gloeocystis sp.	40.5	3.86
Green coccoid, unknown	7.4	0.70
Melosira granulata	12.9	1.23
Melosira italica	9.2	0.88
Navicula sp.	1.8	0.18
Nitzschia acicularis	1.8	0.18
Nitzschia acuta	3.7	0.35
Nitzschia paleacea	3.7	0.35
Nitzschia sp.	1.8	0.18
Ochromonas sp.	38.7	3.68
Oscillatoria sp.	1.8	0.18
Scenedesmus bicellularis	11.0	1.05
Scenedesmus quadricauda v. longispina	5.5	0.53
Scenedesmus sp.	7.4	0.70
Stephanodiscus alpinus	7.4	0.70
Stephanodiscus minutus	1.8	0.18
Stephanodiscus sp.	5.5	0.53
Stephanodiscus tenuis	3.7	0.35
Synedra demerarae	9.2	0.88
Synedra filiformis	7.4	0.70
Synedra ulna v. chaseana	1.8	0.18
Tabellaria fenestrata	3.7	0.35
Tabellaria fenestrata v. intermedia	40.5	3.86
Total	1049.5	100.0

Entrainment for September 1975, continued.

9 SEP 75 DB 1115

Number of forms = 49
Temperature (C) = 28.0

Diversity = 2.86
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.05
Amphora ovalis v. pediculus	1.8	0.05
Anacystis incerta	1813.7	52.90
Anacystis thermalis	294.6	8.59
Ankistrodesmus gelifactum	5.5	0.16
Ankistrodesmus sp. #3	1.8	0.05
Asterionella formosa	22.1	0.64
Bitrichia sp.	1.8	0.05
Centric diatom, unknown	5.5	0.16
Chromulina #1	3.7	0.11
Chromulina #2	25.8	0.75
Chromulina parvula	11.0	0.32
Chrysophycean flagellate spp.	38.7	1.13
Cryptomonas sp.	3.7	0.11
Cyclotella michiganiana	7.4	0.21
Cyclotella ocellata	12.9	0.38
Cyclotella sp.	9.2	0.27
Cyclotella stelligera	3.7	0.11
Cymatopleura sp.	3.7	0.11
Diatoma tenue v. elongatum	1.8	0.05
Dinobryon divergens	7.4	0.21
Flagellates	86.5	2.52
Fragilaria crotonensis	320.4	9.34
Fragilaria sp.	7.4	0.21
Gloeocystis planctonica	134.4	3.92
Gloeocystis sp.	88.4	2.58
Gomphosphaeria lacustris	184.1	5.37
Green coccoid, unknown	27.6	0.81
Mallomonas sp.	1.8	0.05
Melosira granulata	23.9	0.70
Navicula sp.	3.7	0.11
Navicula tripunctata	1.8	0.05
Nitzschia acicularis	5.5	0.16
Nitzschia paleacea	5.5	0.16
Nitzschia sp.	7.4	0.21
Ochromonas sp.	77.3	2.26
Oscillatoria retzii	1.8	0.05
Rhizosolenia eriensis	1.8	0.05
Scenedesmus quadricauda v. longispina	14.7	0.43
Scenedesmus sp.	18.4	0.54
Stephanodiscus alpinus	20.3	0.59
Stephanodiscus minutus	12.9	0.38
Stephanodiscus sp.	18.4	0.54
Stephanodiscus subtilis	1.8	0.05
Stephanodiscus tenuis	1.8	0.05
Surirella sp.	1.8	0.05
Synedra filiformis	9.2	0.27
Tabellaria fenestrata v. intermedia	70.0	2.04
Tetraedron minimum	1.8	0.05
Total	3428.5	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for October 1975.

22 OCT 75 I5A 1950

Number of forms = 63
Temperature (C) = 14.3

Diversity = 4.38
Counted by: N.S.

Taxon	Cells/ml	Percent
Achnanthes hauckiana v. rostrata	1.8	0.07
Amphora sp.	1.8	0.07
Anabaena flos-aquae	75.5	2.98
Anacystis incerta	110.5	4.36
Anacystis thermalis	165.7	6.55
Asterionella formosa	117.8	4.65
Centric diatom, unknown	5.5	0.22
Ceratium hirundinella	1.8	0.07
Chromulina #1	3.7	0.15
Chromulina #2	3.7	0.15
Chromulina parvula	84.7	3.35
Chrysophycean flagellate spp.	12.9	0.51
Coelastrum sp.	46.0	1.82
Crucigenia quadrata	14.7	0.58
Cryptomonad sp.	3.7	0.15
Cryptomonas sp.	73.7	2.91
Cyclotella auxospore	1.8	0.07
Cyclotella comta	3.7	0.15
Cyclotella kuetzingiana	14.7	0.58
Cyclotella meneghiniana	1.8	0.07
Cyclotella michiganiana	9.2	0.36
Cyclotella ocellata	3.7	0.15
Cyclotella sp.	99.4	3.93
Cyclotella stelligera	9.2	0.36
Dinobryon bavaricum	9.2	0.36
Dinobryon divergens	158.4	6.25
Dinobryon flagellates	5.5	0.22
Dinoflagellates	5.5	0.22
Flagellate a	3.7	0.15
Flagellates	482.4	19.05
Fragilaria capucina	86.5	3.42
Fragilaria crotonensis	60.8	2.40
Fragilaria sp.	3.7	0.15
Gloeocystis planctonica	66.3	2.62
Gloeocystis sp.	18.4	0.73
Gomphosphaeria lacustris	257.8	10.18
Green coccoid, unknown	27.6	1.09
Mallomonas pseudocoronata	5.5	0.22
Melosira granulata	9.2	0.36
Navicula exiguaformis	1.8	0.07
Nitzschia acicularis	9.2	0.36
Nitzschia confinis	1.8	0.07
Nitzschia fonticola	1.8	0.07
Nitzschia paleacea	1.8	0.07
Nitzschia sp.	7.4	0.29
Nitzschia sp. #1	1.8	0.07
Ochromonas sp.	268.8	10.62
Oocystis sp.	1.8	0.07
Oscillatoria limnetica	1.8	0.07
Oscillatoria sp.	1.8	0.07
Rhizosolenia eriensis	7.4	0.29
Scenedesmus bicellularis	22.1	0.87
Scenedesmus quadricauda v. longispina	7.4	0.29
Staurastrum paradoxicum	3.7	0.15
Stephanodiscus minutus	20.3	0.80
Stephanodiscus sp.	18.4	0.73
Stephanodiscus subtilis	5.5	0.22
Stephanodiscus tenuis	1.8	0.07
Synedra delicatissima v. angustissima	5.5	0.22
Synedra filiformis	16.6	0.65
Synedra minuscula	1.8	0.07
Synedra sp.	1.8	0.07
Tabellaria fenestrata v. intermedia	51.6	2.04
Total	2531.8	100.0

Entrainment for October 1975, continued.

22 OCT 75 I5B 1950

Number of forms = 48
Temperature(C) = 14.3

Diversity = 4.20
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	3.7	0.19	Fragilaria capucina	3.7	0.19
Anabaena flos-aquae	294.6	14.87	Fragilaria crotonensis	147.3	7.43
Anacystis incerta	36.8	1.86	Fragilaria pinnata	3.7	0.19
Anacystis thermalis	125.2	6.32	Gloeocystis sp.	66.3	3.35
Asterionella formosa	47.9	2.42	Green coccoid, unknown	29.5	1.49
Centric diatom, unknown	18.4	0.93	Nitzschia confinis	3.7	0.19
Ceratium hirundinella	3.7	0.19	Nitzschia dissipata	7.4	0.37
Chromulina #2	81.0	4.09	Nitzschia palea	3.7	0.19
Crucigenia quadrata	14.7	0.74	Nitzschia paleacea	3.7	0.19
Cryptomonas sp.	62.6	3.16	Nitzschia sp.	3.7	0.19
Cyclotella comensis	154.7	7.81	Nitzschia sp. #1	7.4	0.37
Cyclotella comta	3.7	0.19	Ochromonas sp.	397.7	20.07
Cyclotella cryptica	7.4	0.37	Peridinium sp.	3.7	0.19
Cyclotella kuetzingiana v radiosa	3.7	0.19	Rhizosolenia eriensis	11.0	0.56
Cyclotella kuetzingiana	25.8	1.30	Rhizosolenia gracilis	3.7	0.19
Cyclotella meneghiniana v. plana	3.7	0.19	Stephanodiscus alpinus	14.7	0.74
Cyclotella michiganiana	11.0	0.56	Stephanodiscus minutus	11.0	0.56
Cyclotella ocellata	14.7	0.74	Stephanodiscus sp.	11.0	0.56
Cyclotella sp.	44.2	2.23	Stephanodiscus subtilis	14.7	0.74
Cyclotella stelligera	40.5	2.04	Stephanodiscus tenuis	3.7	0.19
Dinobryon divergens	3.7	0.19	Synedra acus	3.7	0.19
Euglena sp.	3.7	0.19	Synedra delicatissima v. angustissima	7.4	0.37
Flagellate a	3.7	0.19	Synedra filiformis	40.5	2.04
Flagellates	125.2	6.32	Tabellaria fenestrata v. intermedia	44.2	2.23
			Total	1981.2	100.0

Entrainment for October 1975, continued.

22 OCT 75 DA 1950

Number of forms = 49
Temperature (C) = 22.3

Diversity = 4.16
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	11.0	1.14	Gloeocystis sp.	44.2	4.57
Anacystis incerta	276.2	28.57	Green coccoid, unknown	23.9	2.48
Ankistrodesmus sp.#1	1.8	0.19	Green filament, unknown	1.8	0.19
Asterionella formosa	47.9	4.95	Melosira granulata	3.7	0.38
Centric diatom, unknown	5.5	0.57	Navicula latans	1.8	0.19
Chromulina #1	9.2	0.95	Navicula sp.	1.8	0.19
Chromulina #2	18.4	1.90	Nitzschia acicularis	1.8	0.19
Chromulina parvula	42.3	4.38	Nitzschia confinis	1.8	0.19
Chroococcus dispersus	14.7	1.52	Nitzschia sp.	7.4	0.76
Cosmarium sp.	1.8	0.19	Nitzschia sp. #1	1.8	0.19
Cyclotella kuetzingiana	29.5	3.05	Peridinium sp.	1.8	0.19
Cyclotella meneghiniana	1.8	0.19	Rhizosolenia eriensis	35.0	3.62
Cyclotella michiganiana	71.8	7.43	Scenedesmus bicellularis	33.1	3.43
Cyclotella ocellata	1.8	0.19	Scenedesmus dimorphus	7.4	0.76
Cyclotella pseudostelligera	1.8	0.19	Scenedesmus sp.	7.4	0.76
Cyclotella sp.	33.1	3.43	Stephanodiscus alpinus	5.5	0.57
Cyclotella stelligera	3.7	0.38	Stephanodiscus minutus	16.6	1.71
Dinobryon divergens	18.4	1.90	Stephanodiscus sp.	1.8	0.19
Dinobryon flagellates	1.8	0.19	Stephanodiscus subtilis	5.5	0.57
Dinoflagellates	1.8	0.19	Stephanodiscus tenuis	14.7	1.52
Fragilaria brevistriata	9.2	0.95	Synedra filiformis	20.3	2.10
Fragilaria capucina v. lanceolata	7.4	0.76	Synedra minuscula	1.8	0.19
Fragilaria construens v. minuta	1.8	0.19	Synedra sp.	1.8	0.19
Fragilaria crotonensis	99.4	10.29	Tabellaria fenestrata v. intermedia	3.7	0.38
Gloeocystis planctonica	7.4	0.76			
			Total	966.7	100.0

Entrainment for October 1975, continued.

22 OCT 75 DB 1950

Number of forms = 56
Temperature (C) = 22.3

Diversity = 3.75
Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora sp.	1.8	0.10	Green coccoid, unknown	16.6	0.86
Anabaena flos-aquae	7.4	0.38	Mallomonas sp.	3.7	0.19
Anacystis incerta	856.2	44.63	Melosira granulata	5.5	0.29
Anacystis thermalis	47.9	2.50	Melosira italica	1.8	0.10
Ankistrodesmus gelifactum	1.8	0.10	Navicula sp.	3.7	0.19
Ankistrodesmus sp.	7.4	0.38	Nitzschia acicularis	3.7	0.19
Asterionella formosa	77.3	4.03	Nitzschia bacata	3.7	0.19
Centric diatom, unknown	22.1	1.15	Nitzschia confinis	1.8	0.10
Chromulina #2	11.0	0.58	Nitzschia dissipata	1.8	0.10
Chromulina parvula	5.5	0.29	Nitzschia kuetzingiana	1.8	0.10
Chrysophycean flagellate spp.	20.3	1.06	Nitzschia paleacea	1.8	0.10
Closterium sp.	1.8	0.10	Nitzschia spiculoides	1.8	0.10
Coelastrum sp.	47.9	2.50	Nitzschia sp.	12.9	0.67
Cryptomonas sp.	29.5	1.54	Nitzschia sp. #1	3.7	0.19
Cyclotella comensis	42.3	2.21	Ochromonas sp.	53.4	2.78
Cyclotella kuetzingiana	23.9	1.25	Oocystis sp.	7.4	0.38
Cyclotella michiganiana	14.7	0.77	Pediastrum duplex v reticulatum	16.6	0.86
Cyclotella ocellata	3.7	0.19	Rhizosolenia eriensis	22.1	1.15
Cyclotella sp.	92.1	4.80	Scenedesmus bicellularis	14.7	0.77
Cyclotella stelligera	9.2	0.48	Stephanodiscus alpinus	14.7	0.77
Dinobryon bavaricum	35.0	1.82	Stephanodiscus binderanus	5.5	0.29
Dinobryon divergens	86.5	4.51	Stephanodiscus minutus	16.6	0.86
Dinoflagellates	1.8	0.10	Stephanodiscus sp.	38.7	2.02
Flagellates	40.5	2.11	Synedra demerarae	5.5	0.29
Fraqilaria crotonensis	60.8	3.17	Synedra filiformis	25.8	1.34
Fraqilaria sp.	5.5	0.29	Tabellaria fenestrata v. intermedia	3.7	0.19
Gloeocystis planctonica	53.4	2.78	Treubaria setigerum	1.8	0.10
Gloeocystis sp.	11.0	0.58	Ulothrix sp.	9.2	0.48
			Total	1918.6	100.0

Entrainment for October 1975, continued.

23 OCT 75 I5A 0453

Number of forms = 53
Temperature(C) = 14.4

Diversity = 3.97
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphora sp.	1.8	0.11
Anabaena flos-aquae	18.4	1.13
Anacystis incerta	313.0	19.19
Anacystis thermalis	14.7	0.90
Ankistrodesmus falcatus	3.7	0.23
Ankistrodesmus gelifactum	1.8	0.11
Asterionella formosa	44.2	2.71
Centric diatom, unknown	5.5	0.34
Chromulina #1	5.5	0.34
Chromulina #2	3.7	0.23
Chromulina parvula	16.6	1.02
Chrysophycean flagellate spp.	7.4	0.45
Crucigenia quadrata	7.4	0.45
Cryptomonas sp.	20.3	1.24
Cyclotella comensis	29.5	1.81
Cyclotella kuetzingiana auxospore	1.8	0.11
Cyclotella kuetzingiana	25.8	1.58
Cyclotella meneghiniana v. plana	1.8	0.11
Cyclotella michiganiana	20.3	1.24
Cyclotella ocellata	3.7	0.23
Cyclotella sp.	46.0	2.82
Dinobryon divergens	38.7	2.37
Dinobryon flagellates	3.7	0.23
Dinoflagellates	5.5	0.34
Flagellates	281.7	17.27
Fraqilaria pinnata	7.4	0.45
Gloeocystis planctonica	84.7	5.19
Gloeocystis sp.	14.7	0.90
Gomphosphaeria lacustris	276.2	16.93
Green coccoid, unknown	5.5	0.34
Kirchneriella sp.	3.7	0.23
Melosira granulata	3.7	0.23
Melosira italica	1.8	0.11
Melosira sp.	1.8	0.11
Navicula cryptocephala v. intermedia	1.8	0.11
Nitzschia acicularis	3.7	0.23
Nitzschia bacata	1.8	0.11
Nitzschia confinis	1.8	0.11
Nitzschia palea	1.8	0.11
Nitzschia sp.	14.7	0.90
Nitzschia sp. #1	1.8	0.11
Ochromonas sp.	152.8	9.37
Rhizosolenia eriensis	35.0	2.14
Scenedesmus bicellularis	14.7	0.90
Scenedesmus quadricauda v. longispina	7.4	0.45
Scenedesmus quadricauda	11.0	0.68
Stephanodiscus minutus	5.5	0.34
Stephanodiscus sp.	22.1	1.35
Surirella angusta	1.8	0.11
Synedra demerarae	5.5	0.34
Synedra filiformis	14.7	0.90
Tabellaria fenestrata	1.8	0.11
Tabellaria fenestrata v. intermedia	9.2	0.56
Total	1631.4	100.0

Entrainment for October 1975, continued.

23 OCT 75 I5B 0453

Number of forms = 55
Temperature(C) = 14.4

Diversity = 3.73
Counted by: N.S.

Taxon	Cells/ml	Percent
Anabaena flos-aquae	184.1	6.22
Anacystis incerta	939.1	31.74
Anacystis thermalis	103.1	3.48
Ankistrodesmus sp. #3	1.8	0.06
Asterionella formosa	73.7	2.49
Caloneis sp.	1.8	0.06
Centric diatom, unknown	53.4	1.80
Chromulina #2	22.1	0.75
Chromulina parvula	23.9	0.81
Chrysophycean flagellate spp.	5.5	0.19
Cryptomonas sp.	29.5	1.00
Cyclotella auxospore	1.8	0.06
Cyclotella comensis	3.7	0.12
Cyclotella comta	3.7	0.12
Cyclotella kuetzingiana	18.4	0.62
Cyclotella meneghiniana	7.4	0.25
Cyclotella michiganiana	23.9	0.81
Cyclotella ocellata	5.5	0.19
Cyclotella sp.	51.6	1.74
Cyclotella stelligera	9.2	0.31
Dinobryon divergens	82.9	2.80
Dinobryon flagellates	3.7	0.12
Dinobryon sp.	3.7	0.12
Dinoflagellates	7.4	0.25
Flagellate a	3.7	0.12
Flagellates	222.8	7.53
Fragilaria crotonensis	92.1	3.11
Fragilaria sp.	3.7	0.12
Gloeocystis planctonica	77.3	2.61
Gloeocystis sp.	11.0	0.37
Gomphosphaeria lacustris	460.3	15.56
Green coccoid, unknown	3.7	0.12
Mallomonas pseudocoronata	1.8	0.06
Melosira islandica	7.4	0.25
Navicula capitata	1.8	0.06
Navicula capitata v. luneburgensis	1.8	0.06
Nitzschia acicularis	11.0	0.37
Nitzschia bacata	1.8	0.06
Nitzschia capitellata	1.8	0.06
Nitzschia fonticola	3.7	0.12
Nitzschia paleacea	5.5	0.19
Nitzschia sp.	7.4	0.25
Ochromonas sp.	237.5	8.03
Rhizosolenia eriensis	14.7	0.50
Scenedesmus acuminatus	7.4	0.25
Scenedesmus bicellularis	14.7	0.50
Scenedesmus quadricauda v. longispina	7.4	0.25
Sphaerocystis sp.	25.8	0.87
Stephanodiscus alpinus	3.7	0.12
Stephanodiscus minutus	16.6	0.56
Stephanodiscus sp.	9.2	0.31
Stephanodiscus subtilis	3.7	0.12
Synedra delicatissima v. angustissima	1.8	0.06
Synedra filiformis	14.7	0.50
Tabellaria fenestrata v. intermedia	22.1	0.75
Total	2959.0	100.0

Entrainment for October 1975, continued.

23 OCT 75 DA 0453

Number of forms = 61
Temperature(C) = 22.9

Diversity = 4.53
Counted by: D.B.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes lanceolata v. dubia	1.8	0.11	Gomphosphaeria lacustris	110.5	6.47
Achnanthes sp.	1.8	0.11	Green coccoid, unknown	14.7	0.86
Anabaena flos-aquae	33.1	1.94	Melosira granulata	12.9	0.75
Anacystis incerta	272.5	15.95	Nitzschia acicularis	9.2	0.54
Anacystis thermalis	18.4	1.08	Nitzschia confinis	1.8	0.11
Asterionella formosa	86.5	5.06	Nitzschia kuetzingiana	7.4	0.43
Blue-green unknown cells	3.7	0.22	Nitzschia palea	9.2	0.54
Centric diatom, unknown	18.4	1.08	Nitzschia sp.	1.8	0.11
Chromulina parvula	11.0	0.65	Nitzschia sp. #1	3.7	0.22
Chromulina sp.	27.6	1.62	Ochromonas sp.	117.8	6.90
Closteriopsis longissima	1.8	0.11	Oestrupia zachariasi	1.8	0.11
Cryptomonas sp.	27.6	1.62	Oocystis parva	14.7	0.86
Cryptophycean flagellates	3.7	0.22	Rhizosolenia eriensis	33.1	1.94
Cyclotella comensis	35.0	2.05	Rhizosolenia gracilis	5.5	0.32
Cyclotella cryptica	1.8	0.11	Scenedesmus bicellularis	14.7	0.86
Cyclotella kuetzingiana auxospore	1.8	0.11	Scenedesmus sp.	7.4	0.43
Cyclotella kuetzingiana	42.3	2.48	Stephanodiscus alpinus	11.0	0.65
Cyclctella meneghiniana v. plana	1.8	0.11	Stephanodiscus minutus	16.6	0.97
Cyclotella michiganiana	82.9	4.85	Stephanodiscus sp.	1.8	0.11
Cyclotella ocellata	3.7	0.22	Stephanodiscus subtilis	16.6	0.97
Cyclotella pseudostelligera	1.8	0.11	Stephanodiscus tenuis	3.7	0.22
Cyclotella sp.	12.9	0.75	Stephanodiscus transilvanicus	1.8	0.11
Cyclotella stelligera	29.5	1.72	Synedra delicatissima v. angustissima	3.7	0.22
Dinobryon bavaricum	5.5	0.32	Synedra demerarae	1.8	0.11
Dinobryon divergens	110.5	6.47	Synedra filiformis	25.8	1.51
Dinoflagellates	1.8	0.11	Synedra minuscula	1.8	0.11
Flagellates	270.7	15.84	Synedra sp.	1.8	0.11
Fragilaria capucina v. lanceolata	46.0	2.69	Tabellaria fenestrata v. intermedia	12.9	0.75
Fragilaria capucina	5.5	0.32	Tetraedron regulare v. incus	1.8	0.11
Fragilaria crotonensis	53.4	3.12	Ulothrix sp.	7.4	0.43
Gloeocystis sp.	18.4	1.08			
			Total	1708.7	100.0

Entrainment for October 1975, continued.

23 OCT 75 DB 0453

Number of forms = 64
Temperature(C) = 22.9

Diversity = 3.79
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphora sp.	3.7	0.09
Anabaena flos-aquae	162.0	4.14
Anacystis incerta	1252.1	31.99
Anacystis thermalis	44.2	1.13
Ankistrodesmus gelifactum	3.7	0.09
Ankistrodesmus sp.	1.8	0.05
Ankistrodesmus sp. #3	1.8	0.05
Asterionella formosa	123.4	3.15
Centric diatom, unknown	7.4	0.19
Ceratium hirundinella	1.8	0.05
Chromulina #2	14.7	0.38
Chromulina parvula	12.9	0.33
Chrysophycean flagellate spp.	42.3	1.08
Crucigenia quadrata	7.4	0.19
Cryptomonas sp.	40.5	1.03
Cyclotella comensis	57.1	1.46
Cyclotella kuetzingiana	31.3	0.80
Cyclotella michiganiana	20.3	0.52
Cyclotella ocellata	7.4	0.19
Cyclotella sp.	114.2	2.92
Cyclotella stelligera	11.0	0.28
Cymbella sp.	1.8	0.05
Dinobryon bavaricum	22.1	0.56
Dinobryon divergens	200.7	5.13
Dinobryon flagellates	1.8	0.05
Flagellates	469.5	11.99
Fragilaria crotonensis	169.4	4.33
Fragilaria pinnata	7.4	0.19
Fragilaria sp.	1.8	0.05
Gloeocystis planctonica	88.4	2.26
Gloeocystis sp.	27.6	0.71
Gomphosphaeria lacustris	524.8	13.41
Green coccoid, unknown	7.4	0.19
Mallomonas sp.	5.5	0.14
Melosira granulata	1.8	0.05
Melosira italica	1.8	0.05
Melosira varians	5.5	0.14
Navicula capitata	1.8	0.05
Navicula capitata v. luneburgensis	1.8	0.05
Navicula sp.	3.7	0.09
Nitzschia acicularis	12.9	0.33
Nitzschia bacata	1.8	0.05
Nitzschia confinis	1.8	0.05
Nitzschia paleacea	7.4	0.19
Nitzschia spiculoides	1.8	0.05
Nitzschia sp.	20.3	0.52
Nitzschia sp. #2	1.8	0.05
Ochromonas sp.	127.0	3.25
Oscillatoria limnetica	1.8	0.05
Rhizosolenia eriensis	42.3	1.08
Scenedesmus acuminatus	5.5	0.14
Scenedesmus bicellularis	18.4	0.47
Scenedesmus quadricauda	7.4	0.19
Scenedesmus sp.	11.0	0.28
Scenedesmus tetradesmiformis	7.4	0.19
Stephanodiscus alpinus	14.7	0.38
Stephanodiscus minutus	20.3	0.52
Stephanodiscus sp.	40.5	1.03
Stephanodiscus subtilis	3.7	0.09
Synedra delicatissima v. angustissima	1.8	0.05
Synedra demerarae	14.7	0.38
Synedra filiformis	31.3	0.80
Synedra sp.	1.8	0.05
Tabellaria fenestrata v. intermedia	11.0	0.28
Total	3914.6	100.0

Entrainment for October 1975, continued.

23 OCT 75 I5A 1115

Number of forms = 42
Temperature (C) = 14.5

Diversity = 2.94
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphiprora ornata	1.8	0.06
Amphora ovalis v. pediculus	1.8	0.06
Anabaena flos-aquae	36.8	1.24
Anacystis incerta	90.2	3.03
Anacystis thermalis	14.7	0.49
Ankistrodesmus gelifactum	5.5	0.19
Asterionella formosa	12.9	0.43
Centric diatom, unknown	11.0	0.37
Chromulina #1	7.4	0.25
Chromulina parvula	90.2	3.03
Chrysophycean flagellate spp.	42.3	1.42
Cryptomonas sp.	16.6	0.56
Cyclotella comensis	20.3	0.68
Cyclotella kuetzingiana	12.9	0.43
Cyclotella michiganiana	27.6	0.93
Cyclotella ocellata	1.8	0.06
Cyclotella sp.	49.7	1.67
Cyclotella stelligera	1.8	0.06
Dinobryon bavaricum	1.8	0.06
Dinobryon divergens	29.5	0.99
Dinoflagellates	1.8	0.06
Flagellates	379.3	12.72
Fragilaria capucina v. lanceolata	31.3	1.05
Fragilaria crotonensis	66.3	2.22
Fragilaria sp.	1.8	0.06
Gloeocystis planctonica	25.8	0.86
Gloeocystis sp.	14.7	0.49
Gomphosphaeria lacustris	1473.0	49.41
Green coccoid, unknown	5.5	0.19
Navicula decussis	1.8	0.06
Navicula sp.	1.8	0.06
Nitzschia acicularis	3.7	0.12
Nitzschia sp.	5.5	0.19
Nitzschia sp. #1	3.7	0.12
Ochromonas sp.	344.3	11.55
Rhizosolenia eriensis	33.1	1.11
Scenedesmus bicellularis	40.5	1.36
Stephanodiscus alpinus	1.8	0.06
Stephanodiscus minutus	18.4	0.62
Stephanodiscus sp.	22.1	0.74
Synedra filiformis	20.3	0.68
Tabellaria fenestrata	7.4	0.25
Total	2981.1	100.0

Entrainment for October 1975, continued.

23 OCT 75 I5B 1115

Number of forms = 49
Temperature(C) = 14.5

Diversity = 3.37
Counted by: S.K.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.04
Anacystis incerta	1390.2	31.66
Anacystis thermalis	62.6	1.43
Ankistrodesmus falcatus	3.7	0.08
Asterionella formosa	114.2	2.60
Chromulina parvula	20.3	0.46
Chrysophycean flagellate spp.	36.8	0.84
Cladophora sp.	5.5	0.13
Cryptomonas sp.	35.0	0.80
Cyclotella comensis	36.8	0.84
Cyclotella kuetzingiana	58.9	1.34
Cyclotella meneghiniana	1.8	0.04
Cyclotella michiganiana	47.9	1.09
Cyclotella ocellata	27.6	0.63
Cyclotella sp.	5.5	0.13
Dinobryon divergens	92.1	2.10
Dinoflagellates	18.4	0.42
Flagellates	561.6	12.79
Fragilaria capucina v. lanceolata	36.8	0.84
Fragilaria crotonensis	125.2	2.85
Gloeocystis planctonica	147.3	3.35
Gloeocystis sp.	38.7	0.88
Gomphosphaeria lacustris	1058.7	24.11
Gyrosigma sp.	1.8	0.04
Hallomonas pseudocoronata	3.7	0.08
Melosira granulata	18.4	0.42
Navicula lanceolata	1.8	0.04
Navicula sp.	1.8	0.04
Nitzschia acicularis	12.9	0.29
Nitzschia bacata	3.7	0.08
Nitzschia kuetzingiana	9.2	0.21
Nitzschia palea	1.8	0.04
Nitzschia paleacea	1.8	0.04
Nitzschia spiculoides	3.7	0.08
Nitzschia sp.	12.9	0.29
Nitzschia sp. #1	3.7	0.08
Ochromonas sp.	154.7	3.52
Oocystis parva	9.2	0.21
Rhizosolenia eriensis	18.4	0.42
Rhizosolenia gracilis	36.8	0.84
Rhizosolenia sp.	18.4	0.42
Scenedesmus acuminatus	7.4	0.17
Scenedesmus quadricauda v. longispina	7.4	0.17
Sphaerocystis schroeteri	51.6	1.17
Stephanodiscus astraea	1.8	0.04
Stephanodiscus minutus	1.8	0.04
Stephanodiscus tenuis	5.5	0.13
Synedra filiformis	42.3	0.96
Tabellaria fenestrata v. intermedia	31.3	0.71
Total	4391.5	100.0

Entrainment for October 1975, continued.

23 OCT 75 DA 1115

Number of forms = 67
Temperature(C) = 22.9

Diversity = 4.56
Counted by: S.W.

Taxon	Cells/ml	Percent
Amphipleura pellucida	3.7	0.13
Anabaena flos-aquae	331.4	11.44
Anacystis incerta	178.6	6.16
Anacystis thermalis	55.2	1.91
Ankistrodesmus sp. #3	1.8	0.06
Asterionella formosa	221.0	7.62
Bitrichia sp.	1.8	0.06
Centric diatom, unknown	18.4	0.64
Ceratium hirundinella	3.7	0.13
Chromulina #1	1.8	0.06
Chromulina #2	7.4	0.25
Chromulina parvula	27.6	0.95
Chrysophycean flagellate spp.	53.4	1.84
Crucigenia quadrata	7.4	0.25
Cryptomonas sp.	25.8	0.89
Cyclotella comensis	31.3	1.08
Cyclotella kuetzingiana auxospore	3.7	0.13
Cyclotella kuetzingiana	71.8	2.48
Cyclotella meneghiniana	7.4	0.25
Cyclotella michiganiana	33.1	1.14
Cyclotella ocellata	1.8	0.06
Cyclotella sp.	86.5	2.99
Cyclotella stelligera	5.5	0.19
Dinobryon bavaricum	9.2	0.32
Dinobryon divergens	117.8	4.07
Dinobryon flagellates	5.5	0.19
Dinoflagellates	1.8	0.06
Flagellates	441.9	15.25
Fragilaria capucina v. lanceolata	14.7	0.51
Fragilaria crotonensis	106.8	3.68
Fragilaria pinnata	5.5	0.19
Fragilaria sp.	5.5	0.19
Gloeocystis planctonica	105.0	3.62
Gloeocystis sp.	44.2	1.52
Gomphosphaeria lacustris	276.2	9.53
Green coccoid, unknown	7.4	0.25
Mallomonas sp.	3.7	0.13
Melosira granulata	3.7	0.13
Melosira italica	3.7	0.13
Navicula sp.	1.8	0.06
Nitzschia acicularis	5.5	0.19
Nitzschia confinis	1.8	0.06
Nitzschia fonticola	1.8	0.06
Nitzschia paleacea	1.8	0.06
Nitzschia spiculoides	1.8	0.06
Nitzschia sp.	20.3	0.70
Nitzschia sp. #1	1.8	0.06
Nitzschia sp. #2	1.8	0.06
Ochromonas sp.	134.4	4.64
Oscillatoria limnetica	3.7	0.13
Rhizosolenia eriensis	46.0	1.59
Rhizosolenia gracilis	5.5	0.19
Scenedesmus bicellularis	22.1	0.76
Scenedesmus sp.	18.4	0.64
Staurastrum paradoxicum	1.8	0.06
Stephanodiscus alpinus	18.4	0.64
Stephanodiscus minutus	7.4	0.25
Stephanodiscus sp.	35.0	1.21
Stephanodiscus subtilis	1.8	0.06
Stephanodiscus tenuis	1.8	0.06
Synedra delicatissima v. angustissima	1.8	0.06
Synedra demerarae	16.6	0.57
Synedra filiformis	46.0	1.59
Synedra sp.	1.8	0.06
Synura sp.	92.1	3.18
Tabellaria fenestrata v. intermedia	62.6	2.16
Ulothrix sp.	9.2	0.32
Total	2898.2	100.0

Entrainment for October 1975, continued.

23 OCT 75 DB 1115

Number of forms = 52
Temperature(C) = 22.9

Diversity = 4.11
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.09
Amphora ovalis v. pediculus	3.7	0.19
Anabaena flos-aquae	22.1	1.14
Anacystis incerta	221.0	11.40
Anacystis thermalis	29.5	1.52
Ankistrodesmus sp.	3.7	0.19
Ankistrodesmus sp.#1	1.8	0.09
Asterionella formosa	99.4	5.13
Centric diatom, unknown	3.7	0.19
Ceratium hirundinella	3.7	0.19
Chromulina #1	5.5	0.28
Chromulina #2	29.5	1.52
Chromulina parvula	49.7	2.56
Crucigenia quadrata	51.6	2.66
Cryptomonas sp.	20.3	1.04
Cyclotella comta	1.8	0.09
Cyclotella kuetzingiana	25.8	1.33
Cyclotella michiganiana	84.7	4.37
Cyclotella ocellata	7.4	0.38
Cyclotella sp.	18.4	0.95
Cyclotella stelligera	7.4	0.38
Diatoma tenue v. elongatum	1.8	0.09
Dinobryon bavaricum	7.4	0.38
Dinobryon divergens	101.3	5.22
Flagellates	508.2	26.21
Fragilaria crotonensis	93.9	4.84
Gloeocystis sp.	53.4	2.75
Gomphosphaeria aponina	103.1	5.32
Gomphosphaeria lacustris	165.7	8.55
Green coccoid, unknown	27.6	1.42
Melosira granulata	3.7	0.19
Navicula bacillum	1.8	0.09
Navicula costulata	1.8	0.09
Navicula decussis	1.8	0.09
Nitzschia acicularis	1.8	0.09
Nitzschia confinis	1.8	0.09
Nitzschia kuetzingiana	1.8	0.09
Nitzschia palea	1.8	0.09
Nitzschia sp.	3.7	0.19
Nitzschia sp. #1	1.8	0.09
Rhizosolenia eriensis	47.9	2.47
Scenedesmus bicellularis	11.0	0.57
Scenedesmus sp.	3.7	0.19
Stephanodiscus alpinus	9.2	0.47
Stephanodiscus minutus	11.0	0.57
Stephanodiscus sp.	9.2	0.47
Stephanodiscus subtilis	25.8	1.33
Stephanodiscus tenuis	7.4	0.38
Surirella angusta	1.8	0.09
Synedra delicatissima v. angustissima	1.8	0.09
Synedra filiformis	16.6	0.85
Tabellaria fenestrata v. intermedia	16.6	0.85
Total	1938.9	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for November 1975.

17 NOV 75 I5A 1930

Number of forms = 51
Temperature(C) = 10.2

Diversity = 4.40
Counted by: S.K.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphipleura pellucida	1.8	0.17	Navicula latens	3.7	0.34
Amphora sp.	1.8	0.17	Navicula menisculus	1.8	0.17
Ankistrodesmus falcatus	1.8	0.17	Navicula sp.	1.8	0.17
Ankistrodesmus sp. #3	9.2	0.84	Nitzschia acicularis	9.2	0.84
Asterionella formosa	36.8	3.36	Nitzschia fonticola	3.7	0.34
Chromulina parvula	27.6	2.52	Nitzschia kuetzingiana	1.8	0.17
Chrysophycean flagellate spp.	125.2	11.43	Nitzschia paleacea	1.8	0.17
Cosmarium #1	1.8	0.17	Nitzschia spiculoides	3.7	0.34
Crucigenia quadrata	29.5	2.69	Nitzschia sp.	22.1	2.02
Cyclotella comensis	42.3	3.87	Nitzschia sp. #1	11.0	1.01
Cyclotella kuetzingiana auxospore	1.8	0.17	Ochromonas sp.	36.8	3.36
Cyclotella kuetzingiana	11.0	1.01	Peridinium sp.	1.8	0.17
Cyclotella meneghiniana v. plana	3.7	0.34	Rhizosolenia eriensis	5.5	0.50
Cyclotella michiganiana	16.6	1.51	Rhizosolenia gracilis	1.8	0.17
Cyclotella ocellata	14.7	1.34	Scenedesmus acuminatus	7.4	0.67
Cyclotella sp.	11.0	1.01	Scenedesmus quadricauda	7.4	0.67
Cyclotella stelligera	1.8	0.17	Scenedesmus sp.	11.0	1.01
Diatoma tenue v. elongatum	1.8	0.17	Stephanodiscus alpinus	3.7	0.34
Dinobryon divergens	3.7	0.34	Stephanodiscus minutus	35.0	3.19
Dinoflagellates	22.1	2.02	Stephanodiscus sp.	12.9	1.18
Flagellates	106.8	9.75	Stephanodiscus tenuis	18.4	1.68
Fragilaria crotonensis	224.6	20.50	Surirella angusta	1.8	0.17
Fragilaria pinnata	3.7	0.34	Synedra filiformis	22.1	2.02
Gloeocystis planctonica	49.7	4.54	Tabellaria fenestrata v. intermedia	81.0	7.40
Gloeocystis sp.	9.2	0.84	Tetrastrum staurogeniaeforme	1.8	0.17
Melosira granulata	25.8	2.35			
			Total	1095.6	100.0

Entrainment for November 1975, continued.

17 NOV 75 I5B 1930

Number of forms = 43
Temperature(C) = 10.2

Diversity = 4.11
Counted by: S.K.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes detha	3.7	0.17	Gloeocystis sp.	22.1	1.05
Ankistrodesmus sp. #3	22.1	1.05	Melosira granulata	154.7	7.32
Asterionella formosa	70.0	3.31	Navicula latens	7.4	0.35
Chromulina parvula	73.7	3.48	Navicula menisculus	3.7	0.17
Chrysophycean flagellate spp.	14.7	0.70	Navicula sp.	7.4	0.35
Cruciqenia quadrata	14.7	0.70	Nitzschia fonticola	11.0	0.52
Cyclotella comensis	25.8	1.22	Nitzschia kuetzingiana	11.0	0.52
Cyclotella kuetzingiana	29.5	1.39	Nitzschia paleacea	7.4	0.35
Cyclotella meneghiniana v. plana	7.4	0.35	Nitzschia sp.	29.5	1.39
Cyclotella michiganiana	14.7	0.70	Nitzschia sp. #1	7.4	0.35
Cyclotella ocellata	22.1	1.05	Ochromonas sp.	40.5	1.92
Cyclotella sp.	11.0	0.52	Rhizosolenia eriensis	14.7	0.70
Cyclotella stelligera	3.7	0.17	Scenedesmus quadricauda	29.5	1.39
Diatoma tenue v. elongatum	3.7	0.17	Stephanodiscus minutus	33.1	1.57
Dinobryon divergens	55.2	2.61	Stephanodiscus sp.	40.5	1.92
Dinoflagellates	3.7	0.17	Stephanodiscus tenuis	44.2	2.09
Flagellates	515.6	24.39	Synedra delicatissima v. angustissima	3.7	0.17
Fragilaria capucina v. lanceolata	143.6	6.79	Synedra filiformis	11.0	0.52
Fragilaria capucina	14.7	0.70	Synedra ostenfeldii	3.7	0.17
Fragilaria crotonensis	279.9	13.24	Tabellaria fenestrata v. intermedia	162.0	7.67
Fragilaria pinnata	7.4	0.35	Tetrastrum staurogeniaeforme	7.4	0.35
Gloeocystis planctonica	125.2	5.92			
			Total	2113.8	100.0

Entrainment for November 1975, continued.

17 NOV 75 DA 1930 Number of forms = 41 Diversity = 3.95
Temperature(C) = 19.0 Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes lanceolata v. dubia	1.8	0.17	Melosira italica	1.8	0.17
Anacystis incerta	73.7	6.94	Navicula capitata	3.7	0.35
Asterionella formosa	31.3	2.95	Navicula decussis	1.8	0.17
Centric diatom, unknown	82.9	7.81	Navicula sp.	3.7	0.35
Chrysophycean flagellate spp.	27.6	2.60	Nitzschia acicularis	3.7	0.35
Cryptomonas sp.	25.8	2.43	Nitzschia dissipata	1.8	0.17
Cyclotella comensis	18.4	1.74	Nitzschia fonticola	7.4	0.69
Cyclotella meneghiniana v. plana	3.7	0.35	Nitzschia kuetzingiana	3.7	0.35
Cyclotella michiganiana	9.2	0.87	Nitzschia paleacea	3.7	0.35
Cyclotella ocellata	12.9	1.22	Nitzschia recta	1.8	0.17
Cyclotella sp.	35.0	3.30	Nitzschia sp.	29.5	2.78
Cyclotella stelligera	7.4	0.69	Nitzschia sp. #1	3.7	0.35
Dinobryon bavaricum	3.7	0.35	Ochromonas sp.	84.7	7.99
Diploneis pseudovalis	1.8	0.17	Scenedesmus bicellularis	7.4	0.69
Flagellates	337.0	31.77	Scenedesmus sp.	11.0	1.04
Fragilaria capucina v. lanceolata	22.1	2.08	Stephanodiscus alpinus	7.4	0.69
Fragilaria crotonensis	31.3	2.95	Stephanodiscus minutus	40.5	3.82
Fragilaria sp.	3.7	0.35	Stephanodiscus sp.	62.6	5.90
Gloeocystis sp.	2.8	0.27	Synedra filiformis	9.2	0.87
Green coccoid, unknown	2.8	0.27	Tabellaria fenestrata v. intermedia	20.3	1.91
Melosira granulata	16.6	1.56			
			Total	1060.7	100.0

Entrainment for November 1975, continued.

17 NOV 75 DB 1930

Number of forms = 41
Temperature (C) = 19.0

Diversity = 4.10
Counted by: S.K.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	5.5	0.48	Gloeocystis sp.	11.0	0.95
Anacystis incerta	276.2	23.85	Melosira granulata	22.1	1.91
Anacystis thermalis	29.5	2.54	Nitzschia acicularis	5.5	0.48
Ankistrodesmus falcatus	1.8	0.16	Nitzschia dissipata	1.8	0.16
Ankistrodesmus gelifactum	3.7	0.32	Nitzschia kuetzingiana	3.7	0.32
Ankistrodesmus sp. #3	1.8	0.16	Nitzschia palea	1.8	0.16
Asterionella formosa	27.6	2.38	Nitzschia spiculoides	1.8	0.16
Chromulina parvula	29.5	2.54	Nitzschia sp.	9.2	0.79
Chrysophycean flagellate spp.	114.2	9.86	Nitzschia sp. #1	9.2	0.79
Cryptomonas sp.	29.5	2.54	Ochromonas sp.	49.7	4.29
Cyclotella comensis	14.7	1.27	Rhizosolenia eriensis	5.5	0.48
Cyclotella kuetzingiana	20.3	1.75	Rhizosolenia gracilis	3.7	0.32
Cyclotella meneghiniana v. plana	1.8	0.16	Scenedesmus acuminatus	7.4	0.64
Cyclotella michiganiana	12.9	1.11	Scenedesmus sp.	7.4	0.64
Cyclotella ocellata	14.7	1.27	Stephanodiscus alpinus	1.8	0.16
Cyclotella sp.	9.2	0.79	Stephanodiscus minutus	9.2	0.79
Dinoflagellates	51.6	4.45	Stephanodiscus sp.	7.4	0.64
Flagellates	156.5	13.51	Stephanodiscus tenuis	9.2	0.79
Fragilaria capucina	7.4	0.64	Synedra filiformis	14.7	1.27
Fragilaria crotonensis	66.3	5.72	Tabellaria fenestrata v. intermedia	73.7	6.36
Gloeocystis planctonica	27.6	2.38			
			Total	1158.2	100.0

Entrainment for November 1975, continued.

18 NOV 75 I5A 0600

Number of forms = 62
Temperature(C) = 10.2

Diversity = 4.58
Counted by: S.W.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	7.4	0.24
Amphora ovalis v. pediculus	3.7	0.12
Amphora sp.	3.7	0.12
Amphora #3	3.7	0.12
Anacystis incerta	368.3	12.12
Anacystis thermalis	66.3	2.18
Ankistrodesmus falcatus	11.0	0.36
Ankistrodesmus sp.	3.7	0.12
Ankistrodesmus sp. #3	3.7	0.12
Asterionella formosa	44.2	1.45
Centric diatom, unknown	313.0	10.30
Chromulina #2	14.7	0.48
Chromulina parvula	29.5	0.97
Chrysophycean flagellate spp.	18.4	0.61
Closteriopsis longissima	7.4	0.24
Cyclotella comensis	36.8	1.21
Cyclotella kuetzingiana	14.7	0.48
Cyclotella meneghiniana v. plana	22.1	0.73
Cyclotella michiganiana	29.5	0.97
Cyclotella ocellata	11.0	0.36
Cyclotella sp.	128.9	4.24
Cyclotella stelligera	3.7	0.12
Cymbella tumida	3.7	0.12
Diatoma sp.	3.7	0.12
Diatoma tenue v. elongatum	7.4	0.24
Dinobryon divergens	11.0	0.36
Flagellates	254.1	8.36
Fragilaria capucina v. lanceolata	125.2	4.12
Fragilaria capucina	7.4	0.24
Fragilaria crotonensis	302.0	9.94
Fragilaria pinnata	3.7	0.12
Fragilaria sp.	3.7	0.12
Gloeocystis planctonica	81.0	2.67
Gloeocystis sp.	70.0	2.30
Gomphosphaeria lacustris	331.4	10.91
Green coccoid, unknown	47.9	1.58
Melosira granulata	11.0	0.36
Mougeotia sp.	3.7	0.12
Navicula decussis	3.7	0.12
Navicula gregaria	3.7	0.12
Navicula sp.	14.7	0.48
Neidium #3	3.7	0.12
Nitzschia acicularis	14.7	0.48
Nitzschia dissipata	7.4	0.24
Nitzschia fonticola	14.7	0.48
Nitzschia kuetzingiana	11.0	0.36
Nitzschia paleacea	3.7	0.12
Nitzschia sp.	73.7	2.42
Nitzschia sp. #1	14.7	0.48
Oscillatoria limnetica	3.7	0.12
Scenedesmus bicellularis	7.4	0.24
Scenedesmus quadricauda	44.2	1.45
Scenedesmus sp.	22.1	0.73
Scenedesmus tetradesmiformis	14.7	0.48
Stephanodiscus alpinus	25.8	0.85
Stephanodiscus minutus	51.6	1.70
Stephanodiscus sp.	162.0	5.33
Stephanodiscus subtilis	3.7	0.12
Stephanodiscus tenuis	7.4	0.24
Synedra delicatissima v. angustissima	7.4	0.24
Synedra filiformis	36.8	1.21
Tabellaria fenestrata v. intermedia	73.7	2.42
Total	3038.1	100.0

Entrainment for November 1975, continued.

18 NOV 75 I5B 0600

Number of forms = 58
Temperature (C) = 10.2

Diversity = 4.19
Counted by: N.S.

Taxon	Cells/ml	Percent
Achnanthes #13	1.8	0.18
Achnanthes clevei v. rostrata	3.7	0.35
Achnanthes sp.	1.8	0.18
Ankistrodesmus falcatus	5.5	0.53
Ankistrodesmus setigerus	3.7	0.35
Asterionella formosa	42.3	4.07
Caloneis sp.	1.8	0.18
Centric diatom, unknown	112.3	10.80
Chromulina #1	1.8	0.18
Chromulina #2	9.2	0.88
Chromulina parvula	38.7	3.72
Chrysophycean flagellate spp.	9.2	0.88
Cryptomonas sp.	16.6	1.59
Cyclotella comensis	3.7	0.35
Cyclotella comta	1.8	0.18
Cyclotella kuetzingiana	14.7	1.42
Cyclotella michiganiana	3.7	0.35
Cyclotella ocellata	3.7	0.35
Cyclotella sp.	38.7	3.72
Cyclotella stelligera	16.6	1.59
Cymbella sp.	1.8	0.18
Diatoma tenue v. elongatum	1.8	0.18
Dinobryon divergens	1.8	0.18
Dinoflagellates	3.7	0.35
Flagellate a	1.8	0.18
Flagellates	331.4	31.86
Fragilaria capucina v. lanceolata	7.4	0.71
Fragilaria crotonensis	29.5	2.83
Fragilaria sp.	9.2	0.88
Gloeocystis planctonica	25.8	2.48
Green coccoid, unknown	16.6	1.59
Melosira granulata	11.0	1.06
Navicula decussis	1.8	0.18
Navicula menisculus v. obtusa	1.8	0.18
Navicula micropupula	1.8	0.18
Navicula pupula	1.8	0.18
Nitzschia acicularis	7.4	0.71
Nitzschia confinis	9.2	0.88
Nitzschia fonticola	9.2	0.88
Nitzschia paleacea	1.8	0.18
Nitzschia sp.	9.2	0.88
Nitzschia sp. #1	1.8	0.18
Ochromonas sp.	77.3	7.43
Oscillatoria sp.	1.8	0.18
Peridinium sp.	1.8	0.18
Rhizosolenia eriensis	5.5	0.53
Scenedesmus bicellularis	3.7	0.35
Scenedesmus quadricauda v. longispina	7.4	0.71
Scenedesmus quadricauda	11.0	1.06
Scenedesmus sp.	7.4	0.71
Stephanodiscus alpinus	11.0	1.06
Stephanodiscus minutus	23.9	2.30
Stephanodiscus sp.	33.1	3.19
Stephanodiscus subtilis	5.5	0.53
Stephanodiscus tenuis	1.8	0.18
Synedra delicatissima v. angustissima	1.8	0.18
Synedra filiformis	9.2	0.88
Tabellaria fenestrata v. intermedia	18.4	1.77
Total	1040.3	100.0

Entrainment for November 1975, continued.

18 NOV 75 DA 0600

Number of forms = 52
Temperature(C) = 18.7

Diversity = 4.04
Counted by: S.W.

Taxon	Cells/ml	Percent
Agmenellum quadruplicatum	659.2	22.49
Amphora ovalis v. libyca	7.4	0.25
Anacystis incerta	368.3	12.56
Anacystis thermalis	51.6	1.76
Ankistrodesmus gelifactum	3.7	0.13
Asterionella formosa	103.1	3.52
Caloneis ventricosa v. minuta	3.7	0.13
Centric diatom, unknown	165.7	5.65
Chrysophycean flagellate spp.	7.4	0.25
Closteriopsis longissima	3.7	0.13
Cryptomonas sp.	3.7	0.13
Cyclotella comensis	22.1	0.75
Cyclotella kuetzingiana	22.1	0.75
Cyclotella meneghiniana v. plana	11.0	0.38
Cyclotella michiganiana	3.7	0.13
Cyclotella ocellata	7.4	0.25
Cyclotella sp.	55.2	1.88
Cyclotella stelligera	3.7	0.13
Diatoma tenue	3.7	0.13
Dinobryon divergens	22.1	0.75
Diploneis parma	3.7	0.13
Flagellates	117.8	4.02
Fragilaria capucina	139.9	4.77
Fragilaria crotonensis	213.6	7.29
Fragilaria pinnata	7.4	0.25
Fragilaria sp.	7.4	0.25
Gloeocystis sp.	7.4	0.25
Gomphosphaeria lacustris	368.3	12.56
Melosira granulata	3.7	0.13
Melosira italica	3.7	0.13
Navicula sp.	3.7	0.13
Nitzschia acicularis	3.7	0.13
Nitzschia confinis	3.7	0.13
Nitzschia dissipata	3.7	0.13
Nitzschia fonticola	3.7	0.13
Nitzschia kuetzingiana	7.4	0.25
Nitzschia paleacea	7.4	0.25
Nitzschia sp.	47.9	1.63
Nitzschia sp. #1	7.4	0.25
Rhizosolenia eriensis	7.4	0.25
Scenedesmus bicellularis	29.5	1.01
Scenedesmus quadricauda	58.9	2.01
Scenedesmus sp.	14.7	0.50
Stephanodiscus alpinus	11.0	0.38
Stephanodiscus minutus	81.0	2.76
Stephanodiscus sp.	128.9	4.40
Stephanodiscus subtilis	3.7	0.13
Stephanodiscus tenuis	3.7	0.13
Synedra filiformis	36.8	1.26
Synedra sp.	3.7	0.13
Tabellaria fenestrata	3.7	0.13
Tabellaria fenestrata v. intermedia	58.9	2.01
Total	2931.3	100.0

Entrainment for November 1975, continued.

18 NOV 75 DB 0600

Number of forms = 48
Temperature (C) = 18.7

Diversity = 3.20
Counted by: S.K.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	1.8	0.11
Anacystis incerta	828.6	47.92
Anacystis thermalis	14.7	0.85
Asterionella formosa	62.6	3.62
Chromulina parvula	20.3	1.17
Chrysophycean flagellate spp.	11.0	0.64
Cyclotella comensis	42.3	2.45
Cyclotella cryptica	3.7	0.21
Cyclotella kuetzingiana	9.2	0.53
Cyclotella meneghiniana	1.8	0.11
Cyclotella michiganiana	33.1	1.92
Cyclotella ocellata	18.4	1.06
Cyclotella sp.	9.2	0.53
Cyclotella stelligera	9.2	0.53
Diatoma tenue v. elongatum	3.7	0.21
Dinobryon divergens	5.5	0.32
Dinoflagellates	7.4	0.43
Flagellates	119.7	6.92
Fragilaria crotonensis	230.2	13.31
Fragilaria sp.	3.7	0.21
Gloeocystis planctonica	16.6	0.96
Gloeocystis sp.	5.5	0.32
Melosira granulata	20.3	1.17
Navicula costulata	1.8	0.11
Navicula decussis	1.8	0.11
Navicula gastrum	1.8	0.11
Navicula latens	1.8	0.11
Navicula radiosa v. tenella	1.8	0.11
Nitzschia dissipata	3.7	0.21
Nitzschia fonticola	3.7	0.21
Nitzschia kuetzingiana	1.8	0.11
Nitzschia palea	3.7	0.21
Nitzschia paleacea	16.6	0.96
Nitzschia sp.	3.7	0.21
Nitzschia sp. #1	27.6	1.60
Ochromonas sp.	12.9	0.75
Rhizosolenia eriensis	7.4	0.43
Scenedesmus quadricauda v. longispina	7.4	0.43
Scenedesmus quadricauda	51.6	2.98
Sphaerocystis schroeteri	1.8	0.11
Stephanodiscus alpinus	5.5	0.32
Stephanodiscus binderanus	36.8	2.13
Stephanodiscus minutus	11.0	0.64
Stephanodiscus sp.	1.8	0.11
Stephanodiscus subtilis	11.0	0.64
Stephanodiscus tenuis	1.8	0.11
Synedra rumpens v. fragilarioides	29.5	1.70
Tabellaria fenestrata v. intermedia		
Total	1729.0	100.0

Entrainment for November 1975, continued.

18 NOV 75 I5A 1300

Number of forms = 52
Temperature (C) = 10.1

Diversity = 3.95
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	3.7	0.15	Kirchneriella contorta	25.8	1.08
Anabaena flos-aquae	33.1	1.38	Melosira italica	7.4	0.31
Anacystis incerta	773.3	32.31	Nitzschia acicularis	3.7	0.15
Ankistrodesmus falcatus	7.4	0.31	Nitzschia bacata	3.7	0.15
Ankistrodesmus sp.	3.7	0.15	Nitzschia confinis	3.7	0.15
Asterionella formosa	66.3	2.77	Nitzschia dissipata	3.7	0.15
Centric diatom, unknown	73.7	3.08	Nitzschia kuetzingiana	14.7	0.62
Chromulina #2	18.4	0.77	Nitzschia palea	11.0	0.46
Cosmarium #1	3.7	0.15	Nitzschia paleacea	7.4	0.31
Cryptomonas sp.	7.4	0.31	Nitzschia sp.	25.8	1.08
Cyclotella comensis	121.5	5.08	Nitzschia sp. #1	3.7	0.15
Cyclotella comta	3.7	0.15	Ochromonas sp.	110.5	4.62
Cyclotella kuetzingiana	3.7	0.15	Oscillatoria bornetii	3.7	0.15
Cyclotella meneghiniana	3.7	0.15	Oscillatoria limnetica	3.7	0.15
Cyclotella ocellata	7.4	0.31	Scenedesmus bicellularis	7.4	0.31
Cyclotella pseudostelligera	3.7	0.15	Scenedesmus quadricauda v. longispina	11.0	0.46
Cyclotella sp.	81.0	3.38	Scenedesmus sp.	7.4	0.31
Cyclotella stelligera	162.0	6.77	Stephanodiscus alpinus	14.7	0.62
Diatoma tenue v. elongatum	7.4	0.31	Stephanodiscus minutus	36.8	1.54
Dinobryon divergens	3.7	0.15	Stephanodiscus sp.	7.4	0.31
Flagellates	58.9	2.46	Stephanodiscus subtilis	14.7	0.62
Fragilaria capucina	73.7	3.08	Stephanodiscus tenuis	3.7	0.15
Fragilaria crotonensis	261.5	10.92	Synedra delicatissima v. angustissima	3.7	0.15
Gloeocystis planctonica	58.9	2.46	Synedra filiformis	7.4	0.31
Gloeocystis sp.	29.5	1.23	Synedra minuscula	3.7	0.15
Green coccoid, unknown	36.8	1.54	Tabellaria fenestrata v. intermedia	139.9	5.85
			Total	2393.7	100.0

Entrainment for November 1975, continued.

18 NOV 75 I5B 1300

Number of forms = 43
Temperature(C) = 10.0

Diversity = 3.33
Counted by: S.K.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	3.7	0.13	Nitzschia bacata	7.4	0.26
Amphora sibirica	3.7	0.13	Nitzschia dissipata	3.7	0.13
Anacystis incerta	736.5	26.08	Nitzschia fonticola	11.0	0.39
Anacystis thermalis	66.3	2.35	Nitzschia kuetzingiana	14.7	0.52
Ankistrodesmus falcatus	3.7	0.13	Nitzschia paleacea	3.7	0.13
Asterionella formosa	7.4	0.26	Nitzschia sp.	18.4	0.65
Chromulina parvula	62.6	2.22	Nitzschia sp. #1	11.0	0.39
Chrysophycean flagellate spp.	14.7	0.52	Ochromonas sp.	70.0	2.48
Cryptomonas sp.	7.4	0.26	Rhizosolenia gracilis	7.4	0.26
Cyclotella comensis	3.7	0.13	Rhizosolenia sp.	18.4	0.65
Cyclotella kuetzingiana	14.7	0.52	Scenedesmus quadricauda	7.4	0.26
Cyclotella meneghiniana	3.7	0.13	Sphaerocystis schroeteri	729.2	25.81
Cyclotella michiganiana	22.1	0.78	Stephanodiscus alpinus	3.7	0.13
Cyclotella stelligera	14.7	0.52	Stephanodiscus binderanus	14.7	0.52
Dinobryon divergens	3.7	0.13	Stephanodiscus minutus	18.4	0.65
Flagellates	453.0	16.04	Stephanodiscus sp.	11.0	0.39
Fragilaria crotonensis	202.5	7.17	Stephanodiscus tenuis	29.5	1.04
Gloeocystis planctonica	73.7	2.61	Synedra delicatissima v. angustissima	3.7	0.13
Gloeocystis sp.	47.9	1.69	Synedra filiformis	7.4	0.26
Melosira granulata	7.4	0.26	Synedra ostenfeldii	3.7	0.13
Navicula pupula	3.7	0.13	Tabellaria fenestrata v. intermedia	70.0	2.48
Nitzschia acicularis	3.7	0.13			
			Total	2824.5	100.0

Entrainment for November 1975, continued.

18 NOV 75 DA 1300

Number of forms = 60
Temperature(C) = 18.8

Diversity = 4.45
Counted by: S.W.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.12
Amphora ovalis v. pediculus	7.4	0.24
Amphora #3	3.7	0.12
Anabaena flos-aquae	209.9	6.79
Anacystis incerta	84.7	2.74
Ankistrodesmus falcatus	11.0	0.36
Ankistrodesmus gelifactum	7.4	0.24
Ankistrodesmus sp. #3	7.4	0.24
Asterionella formosa	47.9	1.55
Centric diatom, unknown	77.3	2.50
Chromulina #2	14.7	0.48
Chromulina parvula	25.8	0.83
Chrysophycean flagellate spp.	33.1	1.07
Crucigenia quadrata	14.7	0.48
Cryptomonas sp.	14.7	0.48
Cyclotella comensis	58.9	1.91
Cyclotella kuetzingiana	22.1	0.72
Cyclotella meneghiniana v. plana	11.0	0.36
Cyclotella michiganiana	14.7	0.48
Cyclotella ocellata	7.4	0.24
Cyclotella sp.	44.2	1.43
Cyclotella stelligera	11.0	0.36
Diatoma tenue v. elongatum	7.4	0.24
Dinobryon divergens	22.1	0.72
Flagellates	456.6	14.78
Fragilaria capucina v. lanceolata	132.6	4.29
Fragilaria crotonensis	390.4	12.63
Fragilaria pinnata	3.7	0.12
Fragilaria sp.	11.0	0.36
Gloeocystis planctonica	14.7	0.48
Gloeocystis sp.	25.8	0.83
Gomphosphaeria lacustris	368.3	11.92
Kirchneriella contorta	11.0	0.36
Melosira italica	18.4	0.60
Navicula anglica v. signata	3.7	0.12
Navicula capitata	3.7	0.12
Navicula pupula	7.4	0.24
Navicula sp.	11.0	0.36
Nitzschia acicularis	7.4	0.24
Nitzschia confinis	3.7	0.12
Nitzschia dissipata	3.7	0.12
Nitzschia fonticola	14.7	0.48
Nitzschia kuetzingiana	14.7	0.48
Nitzschia sp.	33.1	1.07
Nitzschia sp. #1	11.0	0.36
Ochromonas sp.	36.8	1.19
Oscillatoria limnetica	3.7	0.12
Rhizosolenia eriensis	3.7	0.12
Scenedesmus bicellularis	29.5	0.95
Scenedesmus quadricauda v. longispina	14.7	0.48
Scenedesmus sp.	29.5	0.95
Stephanodiscus alpinus	18.4	0.60
Stephanodiscus minutus	88.4	2.86
Stephanodiscus sp.	335.1	10.85
Stephanodiscus subtilis	18.4	0.60
Stephanodiscus tenuis	3.7	0.12
Synedra delicatissima v. angustissima	7.4	0.24
Synedra filiformis	29.5	0.95
Synedra sp.	11.0	0.36
Tabellaria fenestrata v. intermedia	151.0	4.89
Total	3089.7	100.0

Entrainment for November 1975, continued.

18 NOV 75 DB 1300

Number of forms = 53
Temperature(C) = 18.8

Diversity = 3.92
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. libyca	3.7	0.11	Nitzschia acicularis	3.7	0.11
Anacystis incerta	515.6	15.58	Nitzschia confinis	3.7	0.11
Anacystis thermalis	287.2	8.68	Nitzschia kuetzingiana	18.4	0.56
Ankistrodesmus falcatus	3.7	0.11	Nitzschia palea	3.7	0.11
Ankistrodesmus sp.#1	7.4	0.22	Nitzschia paleacea	22.1	0.67
Asterionella formosa	18.4	0.56	Nitzschia spiculoides	3.7	0.11
Blue-green unknown cells	44.2	1.34	Nitzschia sp.	3.7	0.11
Centric diatom, unknown	114.2	3.45	Nitzschia sp. #1	7.4	0.22
Chromulina #2	44.2	1.34	Ochromonas sp.	221.0	6.68
Cryptomonas sp.	33.1	1.00	Oocystis parva	3.7	0.11
Cyclotella kuetzingiana	40.5	1.22	Rhizosolenia eriensis	7.4	0.22
Cyclotella meneghiniana v. plana	3.7	0.11	Scenedesmus bicellularis	44.2	1.34
Cyclotella michiganiana	36.8	1.11	Scenedesmus quadricauda	58.9	1.78
Cyclotella sp.	7.4	0.22	Scenedesmus sp.	14.7	0.45
Cyclotella stelligera	165.7	5.01	Stephanodiscus alpinus	7.4	0.22
Diatoma tenue v. elongatum	3.7	0.11	Stephanodiscus minutus	77.3	2.34
Dinobryon divergens	3.7	0.11	Stephanodiscus sp.	3.7	0.11
Flagellate a	3.7	0.11	Stephanodiscus subtilis	11.0	0.33
Flagellates	180.4	5.45	Stephanodiscus tenuis	7.4	0.22
Fragilaria capucina v. lanceolata	176.8	5.34	Synedra filiformis	29.5	0.89
Fragilaria construens v. minuta	3.7	0.11	Synedra minuscula	14.7	0.45
Gloeocystis sp.	36.8	1.11	Synedra ostenfeldii	3.7	0.11
Gomphosphaeria lacustris	883.8	26.71	Synedra sp.	3.7	0.11
Green coccoid, unknown	25.8	0.78	Synedra vaucheriae	3.7	0.11
Melosira granulata	7.4	0.22	Tabellaria fenestrata v. intermedia	56.9	1.72
Navicula menisculus v. obtusa	3.7	0.11	Ulothrix sp.	14.7	0.45
Navicula sp.	3.7	0.11			
			Total	3308.7	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for December 1975.

10 DEC 75 I5A 1835

Number of forms = 58
Temperature (C) = 5.4

Diversity = 4.27
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.13
Ankistrodesmus falcatus	3.7	0.13
Ankistrodesmus sp.#1	7.4	0.26
Asterionella formosa	62.6	2.25
Caloneis sp.	3.7	0.13
Centric diatom, unknown	670.2	24.04
Chromulina #2	29.5	1.06
Chromulina parvula	25.8	0.92
Cryptomonas sp.	36.8	1.32
Cyclotella comensis	62.6	2.25
Cyclotella cryptica	7.4	0.26
Cyclotella kuetzingiana	18.4	0.66
Cyclotella michiganiana	3.7	0.13
Cyclotella ocellata	22.1	0.79
Cyclotella sp.	81.0	2.91
Cymatopleura solea v. apiculata	3.7	0.13
Cymbella latens	3.7	0.13
Eunotia incisa	3.7	0.13
Flagellate a	3.7	0.13
Flagellates	88.4	3.17
Fragilaria capucina	55.2	1.98
Fragilaria crotonensis	147.3	5.28
Glenodinium sp.	3.7	0.13
Gloeocystis sp.	73.7	2.64
Gomphonema intricatum	3.7	0.13
Gomphonema sp.	3.7	0.13
Green coccoid, unknown	158.4	5.68
Green filament, unknown	44.2	1.59
Melosira granulata	25.8	0.92
Melosira italica	14.7	0.53
Navicula decussis	3.7	0.13
Navicula lanceolata	3.7	0.13
Navicula latens	3.7	0.13
Navicula menisculus v. upsaliensis	3.7	0.13
Navicula sp.	11.0	0.40
Navicula tripunctata	3.7	0.13
Nitzschia acicularis	3.7	0.13
Nitzschia dissipata	3.7	0.13
Nitzschia fonticola	7.4	0.26
Nitzschia kuetzingiana	22.1	0.79
Nitzschia sp.	11.0	0.40
Nitzschia sp. #1	22.1	0.79
Nitzschia sp. #2	3.7	0.13
Ochromonas sp.	305.7	10.96
Oscillatoria sp.	3.7	0.13
Scenedesmus tetradesmiformis	14.7	0.53
Schizothrix sp.	3.7	0.13
Sphaerocystis schroeteri	294.6	10.57
Stephanodiscus alpinus	103.1	3.70
Stephanodiscus minutus	125.2	4.49
Stephanodiscus sp.	29.5	1.06
Stephanodiscus subtilis	14.7	0.53
Stephanodiscus tenuis	14.7	0.53
Synedra filiformis	11.0	0.40
Synedra minuscula	3.7	0.13
Synedra sp.	14.7	0.53
Tabellaria fenestrata v. intermedia	70.0	2.51
Tabellaria flocculosa	3.7	0.13
Total	2787.7	100.0

Entrainment for December 1975, continued.

10 DEC 75 DA 1835

Number of forms = 57
Temperature (C) = 16.0

Diversity = 3.80
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis v. constricta	3.7	0.11
Amphora ovalis v. libyca	7.4	0.22
Ankistrodesmus sp.#1	3.7	0.11
Asterionella formosa	29.5	0.89
Blue-green unknown filament	3.7	0.11
Caloneis sp.	3.7	0.11
Centric diatom, unknown	475.1	14.33
Chromulina #1	3.7	0.11
Chromulina #2	25.8	0.78
Cryptomonas sp.	11.0	0.33
Cyclotella comensis	81.0	2.44
Cyclotella cryptica	7.4	0.22
Cyclotella kuetzingiana	11.0	0.33
Cyclotella meneghiniana	3.7	0.11
Cyclotella michiganiana	11.0	0.33
Cyclotella ocellata	29.5	0.89
Cyclotella sp.	81.0	2.44
Cyclotella stelligera	1182.1	35.67
Cymatopleura solea v. apiculata	3.7	0.11
Cymbella sp.	3.7	0.11
Diatoma vulgare v. breve	3.7	0.11
Dinobryon divergens	3.7	0.11
Dinoflagellates	3.7	0.11
Euglena sp.	3.7	0.11
Flagellates	77.3	2.33
Fragilaria capucina v. lanceolata	139.9	4.22
Fragilaria capucina	40.5	1.22
Fragilaria crotonensis	92.1	2.78
Gloeocystis sp.	40.5	1.22
Melosira italica	18.4	0.56
Navicula cryptocephala v. intermedia	11.0	0.33
Navicula decussis	18.4	0.56
Navicula radiosa v. tenella	3.7	0.11
Navicula sp.	11.0	0.33
Navicula tripunctata	7.4	0.22
Nitzschia acicularis	7.4	0.22
Nitzschia bacata	3.7	0.11
Nitzschia dissipata	3.7	0.11
Nitzschia fonticola	3.7	0.11
Nitzschia kuetzingiana	14.7	0.44
Nitzschia sp.	11.0	0.33
Nitzschia sp. #1	7.4	0.22
Ochromonas sp.	213.6	6.44
Oscillatoria bornetii	7.4	0.22
Oscillatoria limnetica	3.7	0.11
Oscillatoria sp.	14.7	0.44
Pediastrum duplex v reticulatum	25.8	0.78
Rhizosolenia eriensis	3.7	0.11
Scenedesmus sp.	14.7	0.44
Stephanodiscus alpinus	117.8	3.56
Stephanodiscus minutus	154.7	4.67
Stephanodiscus sp.	73.7	2.22
Stephanodiscus subtilis	33.1	1.00
Synedra filiformis	25.8	0.78
Synedra sp.	3.7	0.11
Tabellaria fenestrata v. intermedia	62.6	1.89
Ulothrix sp.	51.6	1.56
Total	3314.3	100.0

Entrainment for December 1975, continued.

10 DEC 75 DB 1835

Number of forms = 51
Temperature(C) = 16.0

Diversity = 3.56
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis	7.4	0.29
Ankistrodesmus sp.#1	7.4	0.29
Asterionella formosa	14.7	0.57
Caloneis bacillum	3.7	0.14
Centric diatom, unknown	559.8	21.84
Chromulina #1	3.7	0.14
Chromulina #2	55.2	2.16
Chroococcus dispersus	7.4	0.29
Coelastrum sp.	29.5	1.15
Cyclotella comensis	84.7	3.30
Cyclotella cryptica	14.7	0.57
Cyclotella kuetzingiana	29.5	1.15
Cyclotella michiganiana	7.4	0.29
Cyclotella ocellata	11.0	0.43
Cyclotella sp.	106.8	4.17
Cyclotella stelligera	905.9	35.34
Cymbella sp.	3.7	0.14
Flagellates	55.2	2.16
Fragilaria capucina	3.7	0.14
Fragilaria crotonensis	29.5	1.15
Fragilaria pinnata	3.7	0.14
Fragilaria pinnata v. lancettula	3.7	0.14
Gloeocystis sp.	25.8	1.01
Green coccoid, unknown	3.7	0.14
Melosira granulata	7.4	0.29
Melosira islandica	7.4	0.29
Navicula decussis	3.7	0.14
Navicula menisculus v. upsaliensis	3.7	0.14
Navicula radiosa v. tenella	3.7	0.14
Navicula sp.	11.0	0.43
Nitzschia acicularis	3.7	0.14
Nitzschia confinis	11.0	0.43
Nitzschia fonticola	11.0	0.43
Nitzschia kuetzingiana	3.7	0.14
Nitzschia sp.	22.1	0.86
Nitzschia sp. #1	14.7	0.57
Ochromonas sp.	106.8	4.17
Oscillatoria bornetii	3.7	0.14
Scenedesmus quadricauda v. longispina	14.7	0.57
Scenedesmus quadricauda	14.7	0.57
Stauroneis acutiuscula	3.7	0.14
Stephanodiscus alpinus	95.7	3.74
Stephanodiscus minutus	95.7	3.74
Stephanodiscus sp.	22.1	0.86
Stephanodiscus subtilis	18.4	0.72
Stephanodiscus tenuis	36.8	1.44
Surirella angusta	3.7	0.14
Synedra filiformis	11.0	0.43
Synedra sp.	7.4	0.29
Synedra ulna v. chaseana	3.7	0.14
Tabellaria fenestrata v. intermedia	44.2	1.72
Total	2563.1	100.0

Entrainment for December 1975, continued.

11 DEC 75 I5A 0735

Number of forms = 43
Temperature (C) = 6.0

Diversity = 3.06
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphipleura pellucida	3.7	0.12
Amphora ovalis v. libyca	3.7	0.12
Amphora sp.	3.7	0.12
Anacystis incerta	1031.1	34.78
Anacystis thermalis	3.7	0.12
Ankistrodesmus falcatus	3.7	0.12
Ankistrodesmus sp.	7.4	0.25
Asterionella formosa	125.2	4.22
Centric diatom, unknown	128.9	4.35
Chromulina #2	22.1	0.75
Cryptomonas sp.	7.4	0.25
Cyclotella comensis	7.4	0.25
Cyclotella kuetzingiana	14.7	0.50
Cyclotella meneghiniana	3.7	0.12
Cyclotella michiganiana	33.1	1.12
Cyclotella pseudostelligera	3.7	0.12
Cyclotella stelligera	905.9	30.56
Dinobryon divergens	7.4	0.25
Dinoflagellates	3.7	0.12
Flagellates	117.8	3.98
Fragilaria capucina v. lanceolata	3.7	0.12
Fragilaria capucina	3.7	0.12
Gloeocystis sp.	58.9	1.99
Green coccoid, unknown	22.1	0.75
Melosira granulata	18.4	0.62
Melosira italica	7.4	0.25
Nitzschia confinis	3.7	0.12
Nitzschia dissipata	11.0	0.37
Nitzschia fonticola	7.4	0.25
Nitzschia kuetzingiana	11.0	0.37
Nitzschia sp.	7.4	0.25
Nitzschia sp. #1	3.7	0.12
Ochromonas sp.	158.4	5.34
Rhizosolenia eriensis	3.7	0.12
Scenedesmus bicellularis	29.5	0.99
Scenedesmus quadricauda	14.7	0.50
Stephanodiscus alpinus	36.8	1.24
Stephanodiscus minutus	55.2	1.86
Stephanodiscus sp.	25.8	0.87
Stephanodiscus subtilis	18.4	0.62
Stephanodiscus transilvanicus	7.4	0.25
Synedra minuscula	7.4	0.25
Tabellaria fenestrata v. intermedia	11.0	0.37
Total	2964.5	100.0

Entrainment for December 1975, continued.

11 DEC 75 I5B 0735

Number of forms = 49
Temperature(C) = 6.0

Diversity = 3.78
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.16
Amphora ovalis v. gracilis	7.4	0.31
Anacystis incerta	110.5	4.66
Ankistrodesmus falcatus	14.7	0.62
Ankistrodesmus sp. #3	7.4	0.31
Ankistrodesmus sp.#1	18.4	0.78
Asterionella formosa	11.0	0.47
Centric diatom, unknown	169.4	7.14
Chromulina #2	88.4	3.73
Cryptomonas sp.	11.0	0.47
Cyclotella comensis	7.4	0.31
Cyclotella kuetzingiana	14.7	0.62
Cyclotella meneghiniana	3.7	0.16
Cyclotella michiganiana	33.1	1.40
Cyclotella sp.	18.4	0.78
Cyclotella stelligera	732.8	30.90
Cymbella cuspidata	3.7	0.16
Flagellates	217.3	9.16
Fragilaria capucina	3.7	0.16
Fragilaria construens v. venter	3.7	0.16
Fragilaria crotonensis	176.8	7.45
Gloeocystis sp.	7.4	0.31
Green coccoid, unknown	14.7	0.62
Melosira islandica	7.4	0.31
Melosira italica	25.8	1.09
Navicula capitata	3.7	0.16
Navicula sp.	7.4	0.31
Nitzschia bacata	3.7	0.16
Nitzschia confinis	3.7	0.16
Nitzschia fonticola	3.7	0.16
Nitzschia kuetzingiana	14.7	0.62
Nitzschia palea	3.7	0.16
Nitzschia sp.	7.4	0.31
Nitzschia sp. #1	11.0	0.47
Nitzschia sp. #2	3.7	0.16
Ochromonas sp.	320.4	13.51
Oscillatoria bornetii	3.7	0.16
Oscillatoria limnetica	3.7	0.16
Pediastrum duplex v reticulatum	58.9	2.48
Rhizosolenia eriensis	7.4	0.31
Scenedesmus bicellularis	14.7	0.62
Stephanodiscus alpinus	51.6	2.17
Stephanodiscus binderanus	11.0	0.47
Stephanodiscus minutus	66.3	2.80
Stephanodiscus sp.	11.0	0.47
Stephanodiscus subtilis	25.8	1.09
Synedra ulna	3.7	0.16
Tabellaria fenestrata v. intermedia	14.7	0.62
Tabellaria flocculosa	3.7	0.16
Total	2371.6	100.0

Entrainment for December 1975, continued.

11 DEC 75 DA 0735

Number of forms = 48
Temperature(C) = 17.0

Diversity = 4.07
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	7.4	0.20	Gomphosphaeria lacustris	552.4	15.35
Amphora sibirica	3.7	0.10	Melosira granulata	7.4	0.20
Amphora sp.	11.0	0.31	Melosira italica	11.0	0.31
Amphora #3	3.7	0.10	Navicula capitata	3.7	0.10
Anabaena flos-aquae	88.4	2.46	Navicula sp.	11.0	0.31
Anacystis incerta	147.3	4.09	Nitzschia acicularis	3.7	0.10
Ankistrodesmus falcatus	14.7	0.41	Nitzschia confinis	3.7	0.10
Ankistrodesmus sp. #3	7.4	0.20	Nitzschia dissipata	3.7	0.10
Asterionella formosa	70.0	1.94	Nitzschia kuetzingiana	29.5	0.82
Centric diatom, unknown	453.0	12.59	Nitzschia paleacea	7.4	0.20
Cyclotella comensis	11.0	0.31	Nitzschia sp.	47.9	1.33
Cyclotella kuetzingiana	29.5	0.82	Nitzschia sp. #1	25.8	0.72
Cyclotella meneghiniana	3.7	0.10	Rhizosolenia eriensis	22.1	0.61
Cyclotella michiganiana	18.4	0.51	Scenedesmus bicellularis	66.3	1.84
Cyclotella ocellata	29.5	0.82	Scenedesmus quadricauda	44.2	1.23
Cyclotella sp.	51.6	1.43	Scenedesmus sp.	22.1	0.61
Cyclotella stelligera	29.6	0.82	Stephanodiscus alpinus	88.4	2.46
Dinoflagellates	3.7	0.10	Stephanodiscus minutus	386.7	10.75
Flagellates	77.3	2.15	Stephanodiscus sp.	611.3	16.99
Fragilaria crotonensis	165.7	4.61	Stephanodiscus subtilis	25.8	0.72
Fragilaria pinnata	7.4	0.20	Stephanodiscus tenuis	7.4	0.20
Fragilaria sp.	25.8	0.72	Synedra demerarae	3.7	0.10
Gloeocystis planctonica	294.6	8.19	Synedra filiformis	18.4	0.51
Gomphonema sp.	3.7	0.10	Tabellaria fenestrata v. intermedia	36.8	1.02
			Total	3598.1	100.0

Entrainment for December 1975, continued.

11 DEC 75 DB 0735

Number of forms = 42
Temperature(C) = 17.0

Diversity = 4.15
Counted by: D.P.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	7.4	0.22	Melosira granulata	7.4	0.22
Ankistrodesmus sp.#1	29.5	0.86	Melosira islandica	14.7	0.43
Asterionella formosa	51.6	1.51	Melosira italica	58.9	1.73
Centric diatom, unknown	574.5	16.85	Navicula #78	7.4	0.22
Chromulina #2	29.5	0.86	Navicula costulata	7.4	0.22
Chromulina parvula	14.7	0.43	Navicula latens	7.4	0.22
Cryptomonas sp.	7.4	0.22	Navicula sp.	7.4	0.22
Cyclotella comensis	338.8	9.94	Navicula tripunctata	14.7	0.43
Cyclotella cryptica	7.4	0.22	Nitzschia fonticola	7.4	0.22
Cyclotella kuetzingiana	44.2	1.30	Nitzschia kuetzingiana	7.4	0.22
Cyclotella meneghiniana v. plana	7.4	0.22	Nitzschia paleacea	7.4	0.22
Cyclotella michiganiana	7.4	0.22	Nitzschia sp. #1	36.8	1.08
Cyclotella sp.	368.3	10.80	Ochromonas sp.	73.7	2.16
Cyclotella stelligera	449.3	13.17	Oscillatoria sp.	7.4	0.22
Dinobryon divergens	14.7	0.43	Stephanodiscus alpinus	206.2	6.05
Flagellates	191.5	5.62	Stephanodiscus minutus	184.1	5.40
Fragilaria capucina	81.0	2.38	Stephanodiscus sp.	73.7	2.16
Fragilaria crotonensis	162.0	4.75	Stephanodiscus subtilis	44.2	1.30
Gloeocystis sp.	44.2	1.30	Stephanodiscus transilvanicus	14.7	0.43
Green coccoid, unknown	7.4	0.22	Synedra sp.	7.4	0.22
Green filament, unknown	58.9	1.73	Tabellaria fenestrata v. intermedia	117.8	3.46
			Total	3410.1	100.0

Entrainment for December 1975, continued.

11 DEC 75 I5A 1240

Number of forms = 55
Temperature(C) = 6.0

Diversity = 3.95
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora sp.	3.7	0.12	Nitzschia acicularis	3.7	0.12
Amphora subcostulata	7.4	0.23	Nitzschia bacata	3.7	0.12
Ankistrodesmus sp.#1	25.8	0.82	Nitzschia dissipata	7.4	0.23
Asterionella formosa	62.6	1.99	Nitzschia kuetzingiana	29.5	0.94
Centric diatom, unknown	519.2	16.53	Nitzschia palea	3.7	0.12
Chromulina #2	121.5	3.87	Nitzschia sp.	11.0	0.35
Chromulina parvula	11.0	0.35	Nitzschia sp. #1	7.4	0.23
Cryptomonas sp.	44.2	1.41	Ochromonas sp.	416.1	13.25
Cyclotella comensis	151.0	4.81	Oscillatoria bornetii	3.7	0.12
Cyclotella kuetzingiana	22.1	0.70	Oscillatoria limnetica	3.7	0.12
Cyclotella michiganiana	11.0	0.35	Rhizosolenia eriensis	7.4	0.23
Cyclotella ocellata	25.8	0.82	Scenedesmus bicellularis	14.7	0.47
Cyclotella sp.	92.1	2.93	Scenedesmus quadricauda	29.5	0.94
Cyclotella stelligera	799.1	25.44	Scenedesmus tetradesmiformis	14.7	0.47
Cymbella sp.	3.7	0.12	Schizothrix sp.	7.4	0.23
Dinobryon divergens	3.7	0.12	Stephanodiscus alpinus	81.0	2.58
Flagellates	158.4	5.04	Stephanodiscus binderanus	18.4	0.59
Fragilaria capucina	3.7	0.12	Stephanodiscus minutus	125.2	3.99
Fragilaria crotonensis	11.0	0.35	Stephanodiscus sp.	40.5	1.29
Gloeocystis sp.	7.4	0.23	Stephanodiscus subtilis	33.1	1.06
Gomphosphaeria lacustris	36.8	1.17	Stephanodiscus tenuis	29.5	0.94
Green coccoid, unknown	7.4	0.23	Surirella angusta	3.7	0.12
Kirchneriella sp.	3.7	0.12	Synedra demerarae	3.7	0.12
Melosira italica	22.1	0.70	Synedra filiformis	11.0	0.35
Navicula anglica v. signata	3.7	0.12	Synedra minuscula	25.8	0.82
Navicula capitata v. luneburgensis	3.7	0.12	Synedra sp.	3.7	0.12
Navicula menisculus v. upsaliensis	3.7	0.12	Tabellaria fenestrata v. intermedia	33.1	1.06
Navicula sp.	3.7	0.12			
			Total	3141.2	100.0

Entrainment for December 1975, continued.

11 DEC 75 I5B 1240

Number of forms = 46
Temperature(C) = 6.0

Diversity = 3.80
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	3.7	0.21	Nitzschia confinis	3.7	0.21
Anacystis thermalis	44.2	2.48	Nitzschia fonticola	3.7	0.21
Ankistrodesmus sp. #2	7.4	0.41	Nitzschia kuetzingiana	11.0	0.62
Ankistrodesmus sp.#1	3.7	0.21	Nitzschia palea	7.4	0.41
Asterionella formosa	14.7	0.83	Nitzschia paleacea	7.4	0.41
Centric diatom, unknown	419.8	23.60	Nitzschia sp.	3.7	0.21
Chromulina #1	47.9	2.69	Nitzschia sp. #1	11.0	0.62
Chromulina parvula	7.4	0.41	Ochromonas sp.	77.3	4.35
Cyclotella comensis	114.2	6.42	Oocystis sp.	7.4	0.41
Cyclotella cryptica	3.7	0.21	Oscillatoria limnetica	7.4	0.41
Cyclotella kuetzingiana	3.7	0.21	Rhizosolenia eriensis	3.7	0.21
Cyclotella michiganiana	11.0	0.62	Scenedesmus quadricauda	14.7	0.83
Cyclotella ocellata	7.4	0.41	Stephanodiscus alpinus	40.5	2.28
Cyclotella sp.	25.8	1.45	Stephanodiscus minutus	151.0	8.49
Cyclotella stelligera	434.5	24.43	Stephanodiscus sp.	7.4	0.41
Flagellates	81.0	4.55	Stephanodiscus subtilis	14.7	0.83
Fragilaria capucina v. lanceolata	11.0	0.62	Stephanodiscus tenuis	3.7	0.21
Fragilaria crotonensis	47.9	2.69	Surirella angusta	7.4	0.41
Gloeocystis sp.	7.4	0.41	Synedra delicatissima v. angustissima	3.7	0.21
Green coccoid, unknown	14.7	0.83	Synedra filiformis	3.7	0.21
Melosira italica	29.5	1.66	Synedra minuscula	3.7	0.21
Navicula pupula	3.7	0.21	Tabellaria fenestrata v. intermedia	29.5	1.66
Navicula sp.	7.4	0.41	Tabellaria quadrisepta	3.7	0.21
			Total	1778.7	100.0

Entrainment for December 1975, continued.

11 DEC 75 DA 1240

Number of forms = 58
Temperature (C) = 16.8

Diversity = 3.97
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis	7.4	0.28	Navicula gastrum v. signata	3.7	0.14
Amphora ovalis v. constricta	3.7	0.14	Navicula radiosa v. tenella	3.7	0.14
Amphora ovalis v. pediculus	7.4	0.28	Nitzschia acicularis	3.7	0.14
Ankistrodesmus falcatus	3.7	0.14	Nitzschia bacata	3.7	0.14
Ankistrodesmus sp.#1	7.4	0.28	Nitzschia confinis	7.4	0.28
Asterionella formosa	18.4	0.70	Nitzschia dissipata	3.7	0.14
Centric diatom, unknown	430.9	16.43	Nitzschia fonticola	3.7	0.14
Chromulina parvula	7.4	0.28	Nitzschia kuetzingiana	14.7	0.56
Chromulina sp.	99.4	3.79	Nitzschia palea	3.7	0.14
Cryptomonas sp.	3.7	0.14	Nitzschia recta	3.7	0.14
Cyclotella comensis	239.4	9.13	Nitzschia sp.	7.4	0.28
Cyclotella kuetzingiana	14.7	0.56	Ochromonas sp.	121.5	4.63
Cyclotella meneghiniana	11.0	0.42	Pediastrum duplex v reticulatum	58.9	2.25
Cyclotella michiganiana	25.8	0.98	Rhopalodia gibba	3.7	0.14
Cyclotella ocellata	14.7	0.56	Scenedesmus bicellularis	14.7	0.56
Cyclotella sp.	51.6	1.97	Scenedesmus quadricauda	7.4	0.28
Cyclotella stelligera	688.6	26.26	Selenastrum sp.	3.7	0.14
Cymbella obtusiuscula	3.7	0.14	Stephanodiscus alpinus	84.7	3.23
Dinoflagellates	3.7	0.14	Stephanodiscus auxospore	3.7	0.14
Flagellates	198.9	7.58	Stephanodiscus binderanus	3.7	0.14
Fragilaria capucina	7.4	0.28	Stephanodiscus minutus	132.6	5.06
Fragilaria crotonensis	62.6	2.39	Stephanodiscus sp.	22.1	0.84
Fragilaria intermedia	7.4	0.28	Stephanodiscus subtilis	33.1	1.26
Fragilaria pinnata	3.7	0.14	Stephanodiscus transilvanicus	3.7	0.14
Gloeocystis sp.	33.1	1.26	Synedra filiformis	18.4	0.70
Green coccoid, unknown	22.1	0.84	Synedra minuscula	3.7	0.14
Kirchneriella obesa	3.7	0.14	Synedra ulna v. chaseana	3.7	0.14
Melosira granulata	14.7	0.56	Tabellaria fenestrata v. intermedia	36.8	1.40
Melosira italica	7.4	0.28	Ulothrix sp.	3.7	0.14
			Total	2622.0	100.0

Entrainment for December 1975, continued.

11 DEC 75 DB 1240

Number of forms = 52
Temperature(C) = 16.8

Diversity = 3.77
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	3.7	0.17	Green coccoid, unknown	22.1	1.04
Achnanthes sp.	3.7	0.17	Melosira italica	18.4	0.87
Amphipleura pellucida	3.7	0.17	Navicula radiosa	3.7	0.17
Amphora ovalis	3.7	0.17	Navicula sp.	3.7	0.17
Amphora ovalis v. pediculus	7.4	0.35	Nitzschia bacata	3.7	0.17
Ankistrodesmus falcatus	14.7	0.69	Nitzschia confinis	3.7	0.17
Ankistrodesmus sp.	3.7	0.17	Nitzschia fonticola	3.7	0.17
Ankistrodesmus sp.#1	7.4	0.35	Nitzschia kuetzingiana	11.0	0.52
Asterionella formosa	44.2	2.08	Nitzschia sp.	7.4	0.35
Centric diatom, unknown	493.5	23.22	Nitzschia sp. #1	3.7	0.17
Chromulina #2	40.5	1.91	Ochromonas sp.	29.5	1.39
Chromulina parvula	14.7	0.69	Oscillatoria limnetica	3.7	0.17
Closteriopsis longissima	3.7	0.17	Rhizosolenia eriensis	7.4	0.35
Cyclotella comensis	158.4	7.45	Scenedesmus bicellularis	44.2	2.08
Cyclotella kuetzingiana	7.4	0.35	Scenedesmus quadricauda v. longispina	7.4	0.35
Cyclotella michiganiana	18.4	0.87	Scenedesmus quadricauda	14.7	0.69
Cyclotella ocellata	7.4	0.35	Scenedesmus sp.	7.4	0.35
Cyclotella sp.	11.0	0.52	Stephanodiscus alpinus	51.6	2.43
Cyclotella stelligera	592.9	27.90	Stephanodiscus minutus	103.1	4.85
Cymbella sp.	3.7	0.17	Stephanodiscus sp.	44.2	2.08
Cymbella ventricosa	3.7	0.17	Stephanodiscus subtilis	22.1	1.04
Flagellates	143.6	6.76	Stephanodiscus tenuis	7.4	0.35
Fragilaria capucina	25.8	1.21	Stephanodiscus transilvanicus	11.0	0.52
Fragilaria construens v. venter	3.7	0.17	Synedra filiformis	3.7	0.17
Fragilaria crotonensis	18.4	0.87	Synedra minuscula	11.0	0.52
Gloeocystis sp.	11.0	0.52	Tabellaria fenestrata v. intermedia	25.8	1.21
			Total	2124.9	100.0

Appendix 2. Results of microscopic counting of 1975 entrainment phytoplankton collected for the purpose of determining a representative sampling location in the intake forebay.

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for May 1975.

28 MAY 75 I1A 5.5M

Number of forms = 45
Temperature(C) = 16.5

Diversity = 3.60
Counted by: D.R.

Taxon	Cells/ml	Percent
Anacystis incerta	51.6	5.30
Ankistrodesmus falcatus	9.2	0.95
Ankistrodesmus sp.	7.4	0.76
Ankistrodesmus sp. #3	9.2	0.95
Ankistrodesmus sp.#1	3.7	0.38
Asterionella formosa	114.2	11.74
Blue-green unknown filament	1.8	0.19
Cosmarium #1	1.8	0.19
Cryptomonas sp.	9.2	0.95
Cryptomycean flagellates	1.8	0.19
Cyclorella ocellata	3.7	0.38
Cyclotella stelligera	9.2	0.95
Cymatopleura solea	1.8	0.19
Dactylococcopsis rhaphilioides	1.8	0.19
Diatoma tenue v. elongatum	5.5	0.57
Dinoflagellates	3.7	0.38
Flagellates	388.5	39.96
Glenodinium sp.	5.5	0.57
Gloeocystis sp.	29.5	3.03
Green filament, unknown	9.2	0.95
Melosira granulata	11.0	1.14
Melosira italica	3.7	0.38
Navicula latens	1.8	0.19
Nitzschia acicularis	18.4	1.89
Nitzschia bacata	1.8	0.19
Nitzschia sp.	1.8	0.19
Nitzschia sublinearis	1.8	0.19
Oscillatoria limnetica	55.2	5.68
Rhizosolenia gracilis	7.4	0.76
Scenedesmus bicellularis	3.7	0.38
Scenedesmus quadricauda	3.7	0.38
Stephanodiscus alpinus	5.5	0.57
Stephanodiscus astraea	1.8	0.19
Stephanodiscus hantzschii	3.7	0.38
Stephanodiscus minutus	7.4	0.76
Stephanodiscus sp.	5.5	0.57
Stephanodiscus subtilis	5.5	0.57
Stephanodiscus tenuis	31.3	3.22
Synedra delicatissima v. angustissima	3.7	0.38
Synedra filiformis	31.3	3.22
Synedra ostenfeldii	1.8	0.19
Synedra sp.	7.4	0.76
Tabellaria fenestrata v. intermedia	60.8	6.25
Tabellaria flocculosa	11.0	1.14
Zoochlorella parasitica	16.6	1.70
Total	972.2	100.0

Entrainment for May 1975, continued.

28 MAY 75 I1B 5.5M

Number of forms = 54
Temperature(C) = 16.5

Diversity = 3.73
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	147.3	10.35	Navicula sp.	1.8	0.13
Ankistrodesmus falcatus v. mirabilis	3.7	0.26	Navicula viridula	1.8	0.13
Ankistrodesmus falcatus	14.7	1.03	Nitzschia acicularis	20.3	1.42
Ankistrodesmus sp.#1	1.8	0.13	Nitzschia bacata	7.4	0.52
Asterionella formosa	289.1	20.31	Nitzschia dissipata	5.5	0.39
Blue-green unknown filament	7.4	0.52	Nitzschia kuetzingiana	1.8	0.13
Cryptomonas sp.	38.7	2.72	Nitzschia spiculoides	1.8	0.13
Cryptophycean flagellates	3.7	0.26	Nitzschia sp.	1.8	0.13
Cyclotella comta	1.8	0.13	Oscillatoria limnetica	22.1	1.55
Cyclotella cryptica	1.8	0.13	Oscillatoria sp.	7.4	0.52
Cyclotella michiganiana	1.8	0.13	Rhizosolenia gracilis	33.1	2.33
Cyclotella ocellata	11.0	0.78	Scenedesmus bicellularis	7.4	0.52
Cyclotella sp.	1.8	0.13	Scenedesmus bijuga	7.4	0.52
Cyclotella stelligera	9.2	0.65	Schizothrix friesii	1.8	0.13
Dactylococcopsis rhaphilioides	1.8	0.13	Stephanodiscus alpinus	9.2	0.65
Diatoma tenue v. elongatum	7.4	0.52	Stephanodiscus auxospore	1.8	0.13
Dinobryon divergens	5.5	0.39	Stephanodiscus minutus	9.2	0.65
Dinoflagellates	5.5	0.39	Stephanodiscus sp.	12.9	0.91
Flagellates	414.3	29.11	Stephanodiscus subtilis	7.4	0.52
Fragilaria crotonensis	14.7	1.03	Stephanodiscus tenuis	33.1	2.33
Fragilaria intermedia	11.0	0.78	Synedra delicatissima v. angustissima	5.5	0.39
Glenodinium sp.	1.8	0.13	Synedra filiformis	71.8	5.05
Gloeocystis sp.	3.7	0.26	Synedra minuscula	1.8	0.13
Green filament, unknown	1.8	0.13	Synedra ostenfeldii	1.8	0.13
Melosira italica	9.2	0.65	Synedra ulna	1.8	0.13
Navicula decussis	3.7	0.26	Tabellaria fenestrata v. intermedia	97.6	6.86
Navicula latens	5.5	0.39	Zoochlorella parasitica	27.6	1.94
			Total	1423.3	100.0

Entrainment for May 1975, continued.

28 MAY 75 I1C 5.5M

Number of forms = 52
Temperature (C) = 16.5

Diversity = 3.90
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	94.9	10.41	Navicula sp.	0.9	0.10
Ankistrodesmus falcatus	5.5	0.61	Nitzschia acicularis	4.6	0.51
Ankistrodesmus sp. #3	0.9	0.10	Nitzschia acuta	0.9	0.10
Ankistrodesmus sp.#1	1.8	0.20	Nitzschia sp.	1.8	0.20
Asterionella formosa	139.1	15.27	Oocystis parva	7.4	0.81
Blue-green unknown cells	7.4	0.81	Oocystis sp.	4.6	0.51
Cosmarium #1	0.9	0.10	Oscillatoria limnetica	25.8	2.83
Cryptomonas sp.	27.6	3.03	Peridinium sp.	0.9	0.10
Cryptophycean flagellates	8.3	0.91	Phacus sp.	0.9	0.10
Dactylococcopsis sp.	1.8	0.20	Rhizosolenia gracilis	3.7	0.40
Diatoma tenue v. elongatum	4.6	0.51	Scenedesmus bicellularis	1.8	0.20
Diatoma tenue v. pachycephalum	0.9	0.10	Scenedesmus quadricauda	1.8	0.20
Dinobryon divergens	2.8	0.30	Schizothrix friesii	2.8	0.30
Dinobryon sociale	1.8	0.20	Stephanodiscus alpinus	0.9	0.10
Flagellates	221.1	24.27	Stephanodiscus binderanus	3.7	0.40
Fragilaria capucina	12.0	1.31	Stephanodiscus minutus	0.9	0.10
Fragilaria crotonensis	51.6	5.66	Stephanodiscus sp.	5.5	0.61
Fragilaria intermedia	4.6	0.51	Stephanodiscus subtilis	0.9	0.10
Glenodinium sp.	1.8	0.20	Stephanodiscus tenuis	11.1	1.21
Gloeocystis sp.	37.8	4.15	Synedra delicatissima v. angustissima	5.5	0.61
Green coccoid, unknown	7.4	0.81	Synedra filiformis	29.5	3.24
Green filament, unknown	2.8	0.30	Synedra sp.	0.9	0.10
Melosira islandica	2.8	0.30	Synedra ulna v. chaseana	0.9	0.10
Melosira italica	8.3	0.91	Tabellaria fenestrata v. intermedia	105.0	11.53
Navicula decussis	0.9	0.10	Tabellaria flocculosa	10.1	1.11
Navicula latens	1.8	0.20	Zoochlorella parasitica	26.7	2.93
			Total	911.0	100.0

Entrainment for May 1975, continued.

28 MAY 75 I3A 5.5M

Number of forms = 41
Temperature (C) = 16.2

Diversity = 3.08
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	0.8	0.14
Amphora ovalis	0.8	0.14
Anacystis incerta	236.2	38.83
Ankistrodesmus falcatus	2.5	0.41
Ankistrodesmus sp. #3	5.0	0.82
Ankistrodesmus sp.#1	0.8	0.14
Asterionella formosa	40.6	6.68
Blue-green unknown cells	2.5	0.41
Blue-green unknown filament	0.8	0.14
Cosmarium #1	1.7	0.27
Cryptomonas sp.	4.1	0.68
Cyclotella cryptica	0.8	0.14
Cyclotella stelligera	1.7	0.27
Dactylococcopsis rhaphilioides	3.3	0.54
Diatoma tenue v. elongatum	1.7	0.27
Dinoflagellates	1.7	0.27
Flagellates	72.1	11.85
Fragilaria crotonensis	8.3	1.36
Glenodinium sp.	0.8	0.14
Gloeocystis sp.	46.4	7.63
Green filament, unknown	0.8	0.14
Melosira italica	4.1	0.68
Navicula decussis	0.8	0.14
Navicula radiosa v. tenella	0.8	0.14
Navicula sp.	0.8	0.14
Nitzschia acicularis	4.1	0.68
Nitzschia confinis	0.8	0.14
Oscillatoria limnetica	22.4	3.68
Oscillatoria sp.	0.8	0.14
Rhizosolenia gracilis	2.5	0.41
Scenedesmus bicellularis	1.7	0.27
Stephanodiscus minutus	1.7	0.27
Stephanodiscus sp.	2.5	0.41
Stephanodiscus subtilis	0.8	0.14
Stephanodiscus tenuis	3.3	0.54
Synedra delicatissima v. angustissima	2.5	0.41
Synedra filiformis	10.8	1.77
Synedra minuscula	0.8	0.14
Tabellaria fenestrata v. intermedia	4.1	0.68
Tabellaria flocculosa	1.7	0.27
Zoochlorella parasitica	107.7	17.71
Total	608.4	100.0

Entrainment for May 1975, continued.

28 MAY 75 I3B 5.5M

Number of forms = 45
Temperature (C) = 16.2

Diversity = 3.63
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes lanceolata v. dubia	1.8	0.15
Anacystis incerta	128.9	10.28
Ankistrodesmus falcatus v. mirabilis	1.8	0.15
Ankistrodesmus falcatus	23.9	1.91
Ankistrodesmus sp.	1.8	0.15
Ankistrodesmus sp.#1	5.5	0.44
Asterionella formosa	208.1	16.59
Blue-green unknown filament	1.8	0.15
Cosmarium #1	5.5	0.44
Cryptomonas sp.	35.0	2.79
Cryptophycean flagellates	7.4	0.59
Cyclotella michiganiana	1.8	0.15
Diatoma tenue v. elongatum	5.5	0.44
Dinobryon divergens	5.5	0.44
Dinoflagellates	3.7	0.29
Flagellates	403.2	32.16
Glenodinium sp.	5.5	0.44
Gloeocystis sp.	20.3	1.62
Green filament, unknown	3.7	0.29
Melosira italica	7.4	0.59
Navicula decussis	1.8	0.15
Navicula latens	3.7	0.29
Nitzschia acicularis	22.1	1.76
Nitzschia spiculoides	3.7	0.29
Nitzschia sp.	3.7	0.29
Nitzschia sp. #2	1.8	0.15
Oestrupia zachariasi	1.8	0.15
Oscillatoria limnetica	68.1	5.43
Oscillatoria sp.	1.8	0.15
Rhizosolenia gracilis	27.6	2.20
Scenedesmus bicellularis	11.0	0.88
Scenedesmus sp.	3.7	0.29
Stephanodiscus alpinus	1.8	0.15
Stephanodiscus binderanus	9.2	0.73
Stephanodiscus minutus	1.8	0.15
Stephanodiscus sp.	5.5	0.44
Stephanodiscus subtilis	3.7	0.29
Stephanodiscus tenuis	22.1	1.76
Surirella ovata v. pinnata	1.8	0.15
Synedra delicatissima v. angustissima	7.4	0.59
Synedra filiformis	73.7	5.87
Synedra ostenfeldii	1.8	0.15
Synedra sp.	9.2	0.73
Tabellaria fenestrata v. intermedia	44.2	3.52
Zoochlorella parasitica	42.3	3.38
Total	1253.9	100.0

Entrainment for May 1975, continued.

28 MAY 75 I3C 5.5M

Number of forms = 48
Temperature (C) = 16.2

Diversity = 4.02
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	38.1	8.83	Melosira italica	0.8	0.19
Anacystis thermalis	4.1	0.96	Navicula decussis	0.8	0.19
Ankistrodesmus falcatus v. acicularis	0.8	0.19	Navicula tripunctata	0.8	0.19
Ankistrodesmus sp.	0.8	0.19	Nitzschia acicularis	9.9	2.30
Ankistrodesmus sp. #3	0.8	0.19	Nitzschia bacata	0.8	0.19
Asterionella formosa	48.1	11.13	Nitzschia spiculoides	0.8	0.19
Cryptomonas sp.	5.0	1.15	Nitzschia sp.	0.8	0.19
Cryptophycean flagellates	0.8	0.19	Oscillatoria limnetica	5.0	1.15
Cyclotella ocellata	0.8	0.19	Oscillatoria sp.	0.8	0.19
Cyclotella stelligera	2.5	0.58	Rhizosolenia gracilis	3.3	0.77
Cymbella sp.	0.8	0.19	Schizothrix friesii	0.8	0.19
Dactylococcopsis rhaphilioides	1.7	0.38	Stephanodiscus alpinus	0.8	0.19
Diatoma tenue v. elongatum	6.6	1.54	Stephanodiscus binderanus	0.8	0.19
Diatoma tenue v. pachycephalum	2.5	0.58	Stephanodiscus minutus	3.3	0.77
Dinobryon divergens	0.8	0.19	Stephanodiscus sp.	3.3	0.77
Dinobryon sociale	0.8	0.19	Stephanodiscus subtilis	1.7	0.38
Dinoflagellates	2.5	0.58	Stephanodiscus tenuis	13.3	3.07
Flagellates	91.2	21.11	Synedra delicatissima v. angustissima	5.0	1.15
Fragilaria crotonensis	36.5	8.45	Synedra filiformis	9.9	2.30
Gloeocystis sp.	39.0	9.02	Synedra sp.	0.8	0.19
Gomphonema sp.	0.8	0.19	Synedra ulna v. chaseana	0.8	0.19
Green filament, unknown	0.8	0.19	Tabellaria fenestrata v. intermedia	18.2	4.22
Kirchneriella contorta	6.6	1.54	Tabellaria flocculosa	1.7	0.38
Melosira granulata	5.0	1.15	Zoochlorella parasitica	49.7	11.52
			Total	431.8	100.0

Entrainment for May 1975, continued.

28 MAY 75 I5A 5.5M

Number of forms = 43
Temperature(C) = 16.8

Diversity = 3.82
Counted by: D.R.

Taxon	Cells/ml	Percent
Achnanthes clevei v. rostrata	0.9	0.19
Achnanthes conspicua	0.9	0.19
Amphora veneta	0.9	0.19
Anacystis incerta	17.5	3.66
Ankistrodesmus falcatus	9.2	1.93
Ankistrodesmus sp.	3.7	0.77
Ankistrodesmus sp. #3	1.8	0.39
Asterionella formosa	80.1	16.76
Cosmarium #1	1.8	0.39
Crucigenia quadrata	3.7	0.77
Cryptomonas sp.	6.4	1.35
Cryptophycean flagellates	3.7	0.77
Cyclotella ocellata	0.9	0.19
Cyclotella sp.	1.8	0.39
Cyclotella stelligera	0.9	0.19
Dactylococcopsis rhaphilioides	0.9	0.19
Diatoma tenue v. elongatum	5.5	1.16
Diatoma tenue v. pachycephalum	0.9	0.19
Dinobryon divergens	6.4	1.35
Dinoflagellates	1.8	0.39
Flagellates	140.0	29.29
Glenodinium sp.	4.6	0.96
Gloeocystis sp.	20.3	4.24
Green filament, unknown	2.8	0.58
Melosira italica	1.8	0.39
Navicula sp.	0.9	0.19
Nitzschia acicularis	12.9	2.70
Nitzschia bacata	0.9	0.19
Oocystis parva	0.9	0.19
Oscillatoria limnetica	23.0	4.82
Oscillatoria sp.	1.8	0.39
Peridinium sp.	0.9	0.19
Rhizosolenia gracilis	15.7	3.28
Scenedesmus bicellularis	1.8	0.39
Stephanodiscus minutus	2.8	0.58
Stephanodiscus sp.	1.8	0.39
Stephanodiscus subtilis	0.9	0.19
Stephanodiscus tenuis	10.1	2.12
Synedra delicatissima v. angustissima	0.9	0.19
Synedra filiformis	21.2	4.43
Synedra sp.	1.8	0.39
Tabellaria fenestrata v. intermedia	27.6	5.78
Zoochlorella parasitica	32.2	6.74
Total	478.1	100.0

Entrainment for May 1975, continued.

28 MAY 75 ISB 5.5M

Number of forms = 49
Temperature (C) = 16.8

Diversity = 3.69
Counted by: D.R.

Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	1.8	0.13
Anacystis incerta	241.2	16.40
Ankistrodesmus falcatus v. mirabilis	1.8	0.13
Ankistrodesmus sp. #3	3.7	0.25
Ankistrodesmus sp.#1	3.7	0.25
Asterionella formosa	263.3	17.90
Cosmarium #1	1.8	0.13
Crucigenia quadrata	29.5	2.00
Cryptomonas sp.	31.3	2.13
Cryptophycean flagellates	5.5	0.38
Cyclotella cryptica	1.8	0.13
Cyclotella meneghiniana	3.7	0.25
Cyclotella michiganiana	1.8	0.13
Cyclotella ocellata	7.4	0.50
Cyclotella stelligera	7.4	0.50
Dactylococcopsis rhaphilioides	1.8	0.13
Diatoma tenue v. elongatum	23.9	1.63
Flagellates	296.4	20.15
Fragilaria crotonensis	182.3	12.39
Glenodinium sp.	1.8	0.13
Gloeocystis sp.	53.4	3.63
Green filament, unknown	1.8	0.13
Melosira granulata	7.4	0.50
Melosira italica	1.8	0.13
Navicula latens	5.5	0.38
Navicula simplex	1.8	0.13
Navicula sp.	3.7	0.25
Navicula viridula	1.8	0.13
Nitzschia acicularis	9.2	0.63
Nitzschia bacata	1.8	0.13
Nitzschia spiculoides	1.8	0.13
Nitzschia sp.	1.8	0.13
Nitzschia sp. #18	1.8	0.13
Oscillatoria limnetica	18.4	1.25
Oscillatoria sp.	3.7	0.25
Rhizosolenia gracilis	9.2	0.63
Schizothrix friesii	3.7	0.25
Stephanodiscus alpinus	3.7	0.25
Stephanodiscus binderanus	5.5	0.38
Stephanodiscus sp.	7.4	0.50
Stephanodiscus subtilis	1.8	0.13
Stephanodiscus tenuis	55.2	3.75
Stephanodiscus transilvanicus	1.8	0.13
Synedra delicatissima v. angustissima	7.4	0.50
Synedra filiformis	42.3	2.88
Tabellaria fenestrata v. intermedia	77.3	5.26
Tabellaria flocculosa	1.8	0.13
Tropidoneis lepidoptera	1.8	0.13
Zoochlorella parasitica	23.9	1.63
Total	1471.2	100.0

Entrainment for May 1975, continued.

28 MAY 75 ISC 5.5M

Number of forms = 49
Temperature(C) = 16.8

Diversity = 3.78
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	83.8	12.60	Nitzschia sp.	1.8	0.28
Ankistrodesmus falcatus	3.7	0.55	Oscillatoria limnetica	14.7	2.22
Ankistrodesmus sp. #3	2.8	0.42	Oscillatoria sp.	1.8	0.28
Asterionella formosa	187.0	28.12	Rhizosolenia gracilis	4.6	0.69
Blue-green unknown cells	3.7	0.55	Scenedesmus quadricauda	1.8	0.28
Blue-green unknown filament	0.9	0.14	Scenedesmus sp.	1.8	0.28
Cosmarium #1	4.6	0.69	Schizothrix friesii	1.8	0.28
Cryptomonas sp.	25.8	3.88	Stephanodiscus alpinus	2.8	0.42
Cryptophycean flagellates	8.3	1.25	Stephanodiscus binderanus	2.8	0.42
Diatoma tenue v. elongatum	1.8	0.28	Stephanodiscus sp.	1.8	0.28
Dinobryon bavaricum	0.9	0.14	Stephanodiscus subtilis	16.6	2.49
Dinobryon divergens	3.7	0.55	Stephanodiscus tenuis	8.3	1.25
Dinoflagellates	2.8	0.42	Synedra acus	0.9	0.14
Flagellates	115.1	17.31	Synedra delicatissima v. angustissima	7.4	1.11
Fragilaria capucina	6.4	0.97	Synedra filiformis	19.3	2.91
Fragilaria crotonensis	1.8	0.28	Synedra rumpens v. fragilarioides	0.9	0.14
Glenodinium sp.	2.8	0.42	Synedra sp.	1.8	0.28
Gloeocystis sp.	22.1	3.32	Synedra ulna	0.9	0.14
Green filament, unknown	5.5	0.83	Synedra ulna v. chaseana	1.8	0.28
Melosira granulata	1.8	0.28	Tabellaria fenestrata v. intermedia	46.1	6.93
Navicula latens	0.9	0.14	Tabellaria flocculosa	6.4	0.97
Navicula tripunctata	0.9	0.14	Tetraedron caudatum v. longispina	0.9	0.14
Nitzschia acicularis	6.4	0.97	Tribonema sp.	0.9	0.14
Nitzschia bacata	0.9	0.14	Zoochlorella parasitica	20.3	3.05
Nitzschia spiculoides	1.8	0.28			
			Total	665.1	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5A 0.6M

Number of forms = 46
Temperature(C) = 16.0

Diversity = 3.77
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	160.0	17.58	Gymnodinium sp.	0.8	0.09
Anacystis thermalis	5.8	0.64	Melosira granulata	5.0	0.55
Ankistrodesmus falcatus	2.5	0.27	Melosira italica	3.3	0.36
Ankistrodesmus sp.#1	0.8	0.09	Navicula sp.	1.7	0.18
Asterionella formosa	151.7	16.67	Nitzschia acicularis	5.0	0.55
Blue-green unknown filament	0.8	0.09	Nitzschia bacata	0.8	0.09
Cosmarium #1	0.8	0.09	Nitzschia sp.	0.8	0.09
Crucigenia quadrata	19.9	2.19	Oscillatoria limnetica	6.6	0.73
Cryptomonas sp.	13.3	1.46	Oscillatoria sp.	2.5	0.27
Cryptophycean flagellates	1.7	0.18	Rhizosolenia gracilis	12.4	1.37
Cyclotella kuetzingiana v planetophora	0.8	0.09	Scenedesmus bicellularis	3.3	0.36
Cyclotella meneghiniana	0.8	0.09	Scenedesmus sp.	11.6	1.28
Cyclotella ocellata	2.5	0.27	Stephanodiscus alpinus	0.8	0.09
Cyclotella operculata	1.7	0.18	Stephanodiscus binderanus	5.0	0.55
Cyclotella sp.	0.8	0.09	Stephanodiscus minutus	0.8	0.09
Cyclotella stelligera	2.5	0.27	Stephanodiscus sp.	4.1	0.46
Diatoma tenue v. elongatum	8.3	0.91	Stephanodiscus subtilis	1.7	0.18
Dinobryon divergens	5.8	0.64	Stephanodiscus tenuis	20.7	2.28
Dinoflagellates	0.8	0.09	Synedra delicatissima v. angustissima	6.6	0.73
Flagellates	146.7	16.12	Synedra filiformis	38.1	4.19
Fragilaria crotonensis	23.2	2.55	Tabellaria fenestrata v. intermedia	83.7	9.20
Glenodinium sp.	3.3	0.36	Trachelomonas sp.	0.8	0.09
Gloeocystis sp.	43.9	4.83	Zoochlorella parasitica	95.3	10.47
			Total	910.1	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5B 0.6M

Number of forms = 41
Temperature (C) = 16.0

Diversity = 3.56
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	355.4	30.16	Nitzschia acicularis	1.8	0.16
Ankistrodesmus falcatus	3.7	0.31	Nitzschia sp.	1.8	0.16
Ankistrodesmus sp.	1.8	0.16	Oocystis sp.	7.4	0.63
Ankistrodesmus sp. #3	1.8	0.16	Oscillatoria limnetica	20.3	1.72
Ankistrodesmus sp.#1	3.7	0.31	Oscillatoria sp.	1.8	0.16
Asterionella formosa	169.4	14.38	Peridinium sp.	3.7	0.31
Cosmarium #1	3.7	0.31	Rhizosolenia gracilis	9.2	0.78
Cryptomonas sp.	7.4	0.63	Scenedesmus dimorphus	5.5	0.47
Cyclotella meneghiniana	1.8	0.16	Scenedesmus quadricauda	7.4	0.63
Cyclotella ocellata	9.2	0.78	Scenedesmus sp.	7.4	0.63
Cyclotella stelligera	1.8	0.16	Stephanodiscus alpinus	1.8	0.16
Dactylococcopsis rhaphilioides	1.8	0.16	Stephanodiscus minutus	3.7	0.31
Dactylococcopsis sp.	1.8	0.16	Stephanodiscus sp.	7.4	0.63
Diatoma tenue v. elongatum	3.7	0.31	Stephanodiscus tenuis	31.3	2.66
Dinobryon divergens	9.2	0.78	Synedra delicatissima v. angustissima	3.7	0.31
Dinobryon sociale	5.5	0.47	Synedra filiformis	44.2	3.75
Dinoflagellates	1.8	0.16	Synedra sp.	1.8	0.16
Flagellates	112.3	9.53	Tabellaria fenestrata v. intermedia	105.0	8.91
Glenodinium sp.	5.5	0.47	Tabellaria flocculosa	36.8	3.13
Gloeocystis sp.	73.7	6.25	Zoochlorella parasitica	99.4	8.44
Green filament, unknown	1.8	0.16			
			Total	1178.4	100.0

Entrainment for May 1975, continued.

29 MAY 75 ISC 0.6M

Number of forms = 37
Temperature(C) = 16.0

Diversity = 3.59
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis v. pediculus	1.8	0.18	Gloeocystis sp.	77.3	7.68
Anacystis incerta	248.6	24.68	Green filament, unknown	1.8	0.18
Anacystis thermalis	3.7	0.37	Kirchneriella sp.	1.8	0.18
Ankistrodesmus falcatus	9.2	0.91	Nitzschia acicularis	7.4	0.73
Ankistrodesmus sp.#1	5.5	0.55	Nitzschia sp.	1.8	0.18
Asterionella formosa	68.1	6.76	Oscillatoria limnetica	12.9	1.28
Closteriopsis longissima	1.8	0.18	Oscillatoria sp.	3.7	0.37
Cosmarium #1	1.8	0.18	Peridinium sp.	1.8	0.18
Cryptomonas sp.	14.7	1.46	Rhizosolenia gracilis	9.2	0.91
Cryptophycean flagellates	5.5	0.55	Scenedesmus bicellularis	3.7	0.37
Cyclotella ocellata	1.8	0.18	Stephanodiscus alpinus	1.8	0.18
Dactylococcopsis rhaphilioides	5.5	0.55	Stephanodiscus minutus	1.8	0.18
Diatoma tenue v. elongatum	1.8	0.18	Stephanodiscus sp.	1.8	0.18
Dinobryon divergens	18.4	1.83	Stephanodiscus tenuis	40.5	4.02
Dinobryon sociale	3.7	0.37	Synedra delicatissima v. angustissima	3.7	0.37
Dinoflagellates	14.7	1.46	Synedra filiformis	20.3	2.01
Flagellates	127.0	12.61	Tabellaria fenestrata v. intermedia	36.8	3.66
Fragilaria crotonensis	29.5	2.93	Zoochlorella parasitica	206.2	20.48
Glenodinium sp.	9.2	0.91			
			Total	1007.2	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5A 5.5M

Number of forms = 39
Temperature(C) = 16.0

Diversity = 3.39
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	12.9	0.98	Navicula latens	1.8	0.14
Ankistrodesmus sp. #3	5.5	0.42	Nitzschia acicularis	7.4	0.56
Asterionella formosa	158.4	12.08	Nitzschia acuta	1.8	0.14
Blue-green unknown cells	1.8	0.14	Oscillatoria limnetica	31.3	2.39
Cosmarium #1	3.7	0.28	Oscillatoria sp.	1.8	0.14
Cryptomonas sp.	9.2	0.70	Rhizosolenia gracilis	9.2	0.70
Cryptophycean flagellates	9.2	0.70	Scenedesmus bijuga	7.4	0.56
Cyclotella meneghiniana	5.5	0.42	Scenedesmus quadricauda	7.4	0.56
Cyclotella stelligera	3.7	0.28	Stephanodiscus binderanus	14.7	1.12
Dactylococcopsis rhaphilioides	3.7	0.28	Stephanodiscus minutus	1.8	0.14
Diatoma tenue v. elongatum	1.8	0.14	Stephanodiscus sp.	3.7	0.28
Dinobryon divergens	9.2	0.70	Stephanodiscus subtilis	1.8	0.14
Dinoflagellates	1.8	0.14	Stephanodiscus tenuis	57.1	4.35
Flagellates	250.4	19.10	Surirella ovata v. pinnata	1.8	0.14
Fragilaria crotonensis	58.9	4.49	Synedra delicatissima v. angustissima	5.5	0.42
Glenodinium sp.	7.4	0.56	Synedra filiformis	29.5	2.25
Gloeocystis sp.	53.4	4.07	Tabellaria fenestrata v. intermedia	84.7	6.46
Green filament, unknown	1.8	0.14	Tabellaria flocculosa	16.6	1.26
Kirchneriella sp.	1.8	0.14	Zoochlorella parasitica	423.5	32.30
Navicula decussis	1.8	0.14			
			Total	1311.0	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5B 5.5M

Number of forms = 38
Temperature(C) = 16.0

Diversity = 3.57
Counted by: D.R.

Taxon	Cells/ml	Percent
Anabaena flos-aquae	0.8	0.12
Anacystis incerta	149.2	22.42
Anacystis thermalis	8.3	1.25
Ankistrodesmus sp.#1	2.5	0.37
Asterionella formosa	77.1	11.58
Blue-green unknown cells	5.0	0.75
Cosmarium #1	0.8	0.12
Cryptomonas sp.	5.0	0.75
Cryptophycean flagellates	3.3	0.50
Cyclotella meneghiniana	0.8	0.12
Cyclotella stelligera	0.8	0.12
Dactylococcopsis rhaphilioides	1.7	0.25
Dactylococcopsis sp.	0.8	0.12
Diatoma tenue v. elongatum	1.7	0.25
Diatoma tenue v. pachycephalum	0.8	0.12
Dinobryon divergens	4.1	0.62
Flagellates	42.3	6.35
Gloeocystis sp.	29.8	4.48
Gomphosphaeria lacustris	124.3	18.68
Navicula sp.	0.8	0.12
Nitzschia acicularis	3.3	0.50
Oocystis sp.	1.7	0.25
Oscillatoria limnetica	5.8	0.87
Oscillatoria sp.	1.7	0.25
Peridinium sp.	0.8	0.12
Rhizosolenia gracilis	5.8	0.87
Scenedesmus bicellularis	5.0	0.75
Scenedesmus longus	3.3	0.50
Scenedesmus quadricauda	3.3	0.50
Scenedesmus sp.	3.3	0.50
Stephanodiscus sp.	3.3	0.50
Stephanodiscus subtilis	1.7	0.25
Stephanodiscus tenuis	21.5	3.24
Synedra delicatissima v. angustissima	0.8	0.12
Synedra filiformis	21.5	3.24
Synedra sp.	0.8	0.12
Tabellaria fenestrata v. intermedia	37.3	5.60
Zoochlorella parasitica	84.5	12.70
Total	665.5	100.0

Entrainment for May 1975, continued.

29 MAY 75 ISC 5.5M

Number of forms = 48
Temperature(C) = 16.0

Diversity = 4.24
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anabaena flos-aquae	0.9	0.13	Gloeocystis sp.	40.5	5.76
Anacystis incerta	86.6	12.30	Green filament, unknown	1.8	0.26
Anacystis thermalis	0.9	0.13	Kirchneriella sp.	3.7	0.52
Ankistrodesmus falcatus	18.4	2.62	Melosira italica	1.8	0.26
Ankistrodesmus sp.	1.8	0.26	Nitzschia acicularis	5.5	0.79
Ankistrodesmus sp. #3	7.4	1.05	Nitzschia kuetzingiana	1.8	0.26
Asterionella formosa	99.5	14.14	Oscillatoria limnetica	32.2	4.58
Blue-green unknown filament	1.8	0.26	Oscillatoria sp.	0.9	0.13
Ceratium hirundinella	0.9	0.13	Pediastrum duplex	16.6	2.36
Cosmarium #1	0.9	0.13	Peridinium sp.	0.9	0.13
Cosmarium #2	0.9	0.13	Rhizosolenia gracilis	17.5	2.49
Cryptomonas sp.	7.4	1.05	Scenedesmus acuminatus	3.7	0.52
Cryptophycean flagellates	9.2	1.31	Scenedesmus bicellularis	1.8	0.26
Cyclotella sp.	0.9	0.13	Scenedesmus bijuga	11.1	1.57
Dactylococcopsis rhaphilioides	1.8	0.26	Scenedesmus dimorphus	3.7	0.52
Diatoma tenue v. elongatum	4.6	0.65	Stephanodiscus minutus	0.9	0.13
Diatoma tenue v. pachycephalum	0.9	0.13	Stephanodiscus sp.	2.8	0.39
Dinobryon bavaricum	3.7	0.52	Stephanodiscus tenuis	20.3	2.88
Dinobryon divergens	12.0	1.70	Synedra delicatissima v. angustissima	2.8	0.39
Dinobryon sociale	0.9	0.13	Synedra filiformis	40.5	5.76
Dinoflagellates	0.9	0.13	Synedra sp.	2.8	0.39
Flagellates	98.6	14.01	Synedra ulna v. chaseana	0.9	0.13
Fragilaria crotonensis	31.3	4.45	Tabellaria fenestrata v. intermedia	60.8	8.64
Glenodinium sp.	6.4	0.92	Zoochlorella parasitica	29.5	4.19
			Total	703.8	100.0

Entrainment for May 1975, continued.

29 MAY 75 ISA 8.5M

Number of forms = 54
Temperature (C) = 16.0

Diversity = 3.90
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	19.9	1.70	Green filament, unknown	0.8	0.07
Anacystis thermalis	24.9	2.13	Melosira granulata	2.5	0.21
Ankistrodesmus sp.	0.8	0.07	Melosira islandica	7.5	0.64
Ankistrodesmus sp.#1	1.7	0.14	Melosira italica	5.8	0.50
Asterionella formosa	220.5	18.87	Navicula decussis	2.5	0.21
Blue-green unknown cells	3.3	0.28	Navicula sp.	0.8	0.07
Blue-green unknown filament	0.8	0.07	Nitzschia acicularis	5.0	0.43
Chroococcus sp.	0.8	0.07	Nitzschia dissipata	0.8	0.07
Closteriopsis sp.	0.8	0.07	Nitzschia palea	0.8	0.07
Coelastrum sp.	58.0	4.96	Nitzschia sp.	0.8	0.07
Coelosphaerium sp.	20.7	1.77	Oocystis sp.	2.5	0.21
Crucigenia quadrata	6.6	0.57	Oscillatoria limnetica	1.7	0.14
Cryptomonas sp.	20.7	1.77	Rhizosolenia gracilis	4.1	0.35
Cryptophycean flagellates	1.7	0.14	Scenedesmus bicellularis	1.7	0.14
Cyclotella ocellata	3.3	0.28	Stephanodiscus alpinus	0.8	0.07
Cyclotella sp.	0.8	0.07	Stephanodiscus binderanus	7.5	0.64
Cyclotella stelligera	5.8	0.50	Stephanodiscus minutus	5.8	0.50
Cylindrocapsa geminella v. minor	0.8	0.07	Stephanodiscus sp.	6.6	0.57
Diatoma tenue v. elongatum	6.6	0.57	Stephanodiscus sp. #5	0.8	0.07
Diatoma vulgare	0.8	0.07	Stephanodiscus subtilis	1.7	0.14
Euglena sp.	0.8	0.07	Stephanodiscus tenuis	45.6	3.90
Flagellates	71.3	6.10	Synedra delicatissima v. angustissima	6.6	0.57
Fragilaria crotonensis	14.1	1.21	Synedra filiformis	43.1	3.69
Glenodinium sp.	0.8	0.07	Synedra sp.	2.5	0.21
Gloeocystis planctonica	3.3	0.28	Synedra ulna v. chaseana	2.5	0.21
Gloeocystis sp.	38.1	3.26	Tabellaria fenestrata v. intermedia	189.0	16.17
Gomphosphaeria sp.	165.8	14.18	Zoochlorella parasitica	125.2	10.71
			Total	1168.6	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5B 8.5M

Number of forms = 41
Temperature(C) = 16.0

Diversity = 3.19
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Anacystis incerta	441.9	16.75	Green solitary, unknown	3.7	0.14
Anacystis thermalis	957.5	36.29	Nitzschia acicularis	5.5	0.21
Ankistrodesmus falcatus	12.9	0.49	Nitzschia sp.	1.8	0.07
Ankistrodesmus sp. #3	3.7	0.14	Oocystis sp.	3.7	0.14
Ankistrodesmus sp.#1	3.7	0.14	Oscillatoria limnetica	20.3	0.77
Asterionella formosa	152.8	5.79	Oscillatoria sp.	1.8	0.07
Cosmarium #1	5.5	0.21	Peridinium sp.	3.7	0.14
Crucigenia quadrata	7.4	0.28	Rhizosolenia eriensis	1.8	0.07
Cryptomonas sp.	14.7	0.56	Rhizosolenia gracilis	11.0	0.42
Cryptophycean flagellates	23.9	0.91	Scenedesmus bijuga	7.4	0.28
Cyclotella kuetzingiana	1.8	0.07	Stephanodiscus alpinus	1.8	0.07
Cyclotella meneghiniana	1.8	0.07	Stephanodiscus sp.	7.4	0.28
Dactylococcopsis rhaphilioides	3.7	0.14	Stephanodiscus subtilis	1.8	0.07
Diatoma tenue v. elongatum	1.8	0.07	Stephanodiscus tenuis	12.9	0.49
Dinobryon divergens	35.0	1.33	Synedra delicatissima v. angustissima	1.8	0.07
Dinobryon sociale	16.6	0.63	Synedra filiformis	42.3	1.61
Flagellates	246.7	9.35	Synedra ulna	1.8	0.07
Fragilaria crotonensis	57.1	2.16	Tabellaria fenestrata v. intermedia	77.3	2.93
Glenodinium sp.	12.9	0.49	Tabellaria flocculosa	20.3	0.77
Gloeocystis sp.	294.6	11.17	Zoochlorella parasitica	110.5	4.19
Green filament, unknown	3.7	0.14			
			Total	2638.6	100.0

Entrainment for May 1975, continued.

29 MAY 75 I5C 8.5M

Number of forms = 47
Temperature(C) = 16.0

Diversity = 3.79
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora ovalis	3.7	0.26	Navicula tripunctata	1.8	0.13
Anacystis incerta	23.9	1.69	Nitzschia acicularis	9.2	0.65
Ankistrodesmus falcatus	3.7	0.26	Nitzschia bacata	1.8	0.13
Ankistrodesmus sp.#1	1.8	0.13	Nitzschia paleacea	1.8	0.13
Asterionella formosa	289.1	20.44	Nitzschia sublinearis	1.8	0.13
Blue-green unknown filament	3.7	0.26	Oscillatoria limnetica	35.0	2.47
Cosmarium #2	3.7	0.26	Oscillatoria sp.	7.4	0.52
Cryptomonas sp.	7.4	0.52	Rhizosolenia gracilis	18.4	1.30
Cryptophycean flagellates	9.2	0.65	Scenedesmus bicellularis	11.0	0.78
Cyclotella cryptica	1.8	0.13	Scenedesmus quadricauda	3.7	0.26
Cyclotella ocellata	3.7	0.26	Stephanodiscus alpinus	3.7	0.26
Cyclotella sp.	1.8	0.13	Stephanodiscus astraea	1.8	0.13
Cyclotella stelligera	11.0	0.78	Stephanodiscus minutus	7.4	0.52
Diatoma tenue v. elongatum	12.9	0.91	Stephanodiscus sp.	5.5	0.39
Diatoma tenue v. pachycephalum	3.7	0.26	Stephanodiscus subtilis	7.4	0.52
Dinobryon divergens	12.9	0.91	Stephanodiscus tenuis	53.4	3.78
Dinoflagellates	1.8	0.13	Synedra delicatissima v. angustissima	12.9	0.91
Flagellates	278.0	19.66	Synedra filiformis	66.3	4.69
Fragilaria crotonensis	84.7	5.99	Synedra sp.	1.8	0.13
Glenodinium sp.	11.0	0.78	Synedra ulna v. chaseana	3.7	0.26
Gloeocystis sp.	33.1	2.34	Tabellaria fenestrata v. intermedia	184.1	13.02
Green filament, unknown	3.7	0.26	Tetraedron sp.	1.8	0.13
Melosira granulata	7.4	0.52	Zoochlorella parasitica	154.7	10.94
Meridion circulare	3.7	0.26			
			Total	1414.1	100.0

Appendix 3. Results of microscopic counting of 1975 entrainment phytoplankton collected in the vicinity of the thermal plume during 1975.

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for April 1975.

15 APR 75 PLUME A

Number of forms = 59
Temperature(C) = 6.2

Diversity = 4.43
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Achnanthes sp.	3.7	0.09	Nitzschia bacata	3.7	0.09
Ankistrodesmus falcatus	18.4	0.47	Nitzschia confinis	3.7	0.09
Ankistrodesmus sp. #3	25.8	0.66	Nitzschia dissipata	11.0	0.28
Ankistrodesmus sp.#1	3.7	0.09	Nitzschia fonticola	3.7	0.09
Asterionella formosa	125.2	3.18	Nitzschia sp.	14.7	0.37
Centric diatom, unknown	121.5	3.09	Nitzschia sp. #2	3.7	0.09
Crucigenia quadrata	14.7	0.37	Oscillatoria limnetica	7.4	0.19
Cryptomonas sp.	47.9	1.22	Oscillatoria sp.	7.4	0.19
Cryptophycean flagellates	7.4	0.19	Peridinium sp.	11.0	0.28
Cyclotella kuetzingiana	7.4	0.19	Rhizosolenia gracilis	40.5	1.03
Cyclotella ocellata	11.0	0.28	Rhizosolenia sp.	11.0	0.28
Cyclotella sp.	7.4	0.19	Scenedesmus bicellularis	14.7	0.37
Cyclotella stelligera	265.1	6.74	Scenedesmus quadricauda	14.7	0.37
Diatoma tenue v. elongatum	92.1	2.34	Stephanodiscus alpinus	206.2	5.24
Dinobryon divergens	3.7	0.09	Stephanodiscus astraea	3.7	0.09
Dinoflagellates	22.1	0.56	Stephanodiscus binderanus	114.2	2.90
Flagellates	839.6	21.35	Stephanodiscus hantzschii	36.8	0.94
Fragilaria capucina	22.1	0.56	Stephanodiscus minutus	261.5	6.65
Fragilaria crotonensis	294.6	7.49	Stephanodiscus sp.	158.4	4.03
Fragilaria intermedia	81.0	2.06	Stephanodiscus subtilis	14.7	0.37
Glenodinium sp.	14.7	0.37	Stephanodiscus tenuis	268.8	6.84
Gloeocystis sp.	33.1	0.84	Synedra delicatissima v. angustissima	7.4	0.19
Green coccoid, unknown	18.4	0.47	Synedra filiformis	158.4	4.03
Melosira granulata	25.8	0.66	Synedra ostenfeldii	3.7	0.09
Melosira islandica	184.1	4.68	Synedra tenera	7.4	0.19
Melosira italica	77.3	1.97	Synedra ulna	3.7	0.09
Melosira varians	7.4	0.19	Tabellaria fenestrata v. intermedia	128.9	3.28
Navicula latens	3.7	0.09	Tabellaria flocculosa	3.7	0.09
Navicula simplex	3.7	0.09	Tabellaria quadrisepta	14.7	0.37
Nitzschia acicularis	11.0	0.28			
			Total	3933.0	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for May 1975.

13 MAY 75 PLUME A

Number of forms = 38
Temperature(C) = 11.0

Diversity = 3.16
Counted by: D.R.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Ankistrodesmus falcatus	7.4	0.14	Melosira italica	7.4	0.14
Ankistrodesmus sp. #3	22.1	0.42	Navicula latens	7.4	0.14
Asterionella formosa	279.9	5.37	Navicula simplex	7.4	0.14
Blue-green unknown cells	58.9	1.13	Nitzschia acicularis	7.4	0.14
Centric diatom, unknown	14.7	0.28	Nitzschia confinis	7.4	0.14
Chromulina #1	7.4	0.14	Oscillatoria limnetica	7.4	0.14
Cryptomonas sp.	66.3	1.27	Oscillatoria sp.	125.2	2.40
Cyclotella michiganiana	7.4	0.14	Rhizosolenia gracilis	125.2	2.40
Cyclotella ocellata	7.4	0.14	Scenedesmus bicellularis	29.5	0.56
Cyclotella stelligera	95.7	1.84	Scenedesmus sp.	14.7	0.28
Diatoma tenue v. elongatum	22.1	0.42	Stephanodiscus alpinus	7.4	0.14
Dinobryon divergens	14.7	0.28	Stephanodiscus hantzschii	14.7	0.28
Dinoflagellates	7.4	0.14	Stephanodiscus minutus	73.7	1.41
Flagellates	1126.9	21.61	Stephanodiscus sp.	14.7	0.28
Fragilaria crotonensis	891.2	17.09	Stephanodiscus tenuis	117.8	2.26
Glenodinium sp.	7.4	0.14	Synedra delicatissima v. angustissima	44.2	0.85
Gloeocystis sp.	22.1	0.42	Synedra filiformis	117.8	2.26
Green coccoid, unknown	58.9	1.13	Synedra ulna v. chaseana	7.4	0.14
Melosira granulata	44.2	0.85	Tabellaria fenestrata v. intermedia	1716.1	32.91
			Total	5214.5	100.0

Density (cells/ml) of the taxa of phytoplankton found in the entrainment for September 1975.

9 SEP 75 PLUME A

Number of forms = 40
Temperature(C) = 20.0

Diversity = 3.47
Counted by: S.W.

Taxon	Cells/ml	Percent
Anabaena flos-aquae	70.0	2.84
Anacystis incerta	487.9	19.81
Anacystis thermalis	195.2	7.93
Asterionella formosa	23.9	0.97
Chromulina #1	12.9	0.52
Chromulina #2	116.0	4.71
Chromulina parvula	1.8	0.07
Chrysophycean flagellate spp.	60.8	2.47
Cosmarium #1	1.8	0.07
Crucigenia quadrata	7.4	0.30
Cryptomonas sp.	25.8	1.05
Cyclotella michiganiana	3.7	0.15
Cyclotella ocellata	1.8	0.07
Cyclotella sp.	9.2	0.37
Desmid	1.8	0.07
Dinobryon divergens	7.4	0.30
Dinoflagellates	1.8	0.07
Flagellates	228.3	9.27
Fragilaria crotonensis	16.6	0.67
Fragilaria vaucheriae	1.8	0.07
Fragilaria vaucheriae v. capitellata	1.8	0.07
Gloeocystis planctonica	64.4	2.62
Gloeocystis sp.	169.4	6.88
Gomphosphaeria lacustris	681.3	27.67
Green coccoid, unknown	9.2	0.37
Melosira italica	9.2	0.37
Navicula capitata v. luneburgensis	3.7	0.15
Navicula sp.	1.8	0.07
Nitzschia kuetzingiana	1.8	0.07
Nitzschia paleacea	1.8	0.07
Ochromonas sp.	125.2	5.08
Rhizosolenia eriensis	1.8	0.07
Scenedesmus quadricauda	14.7	0.60
Stephanodiscus alpinus	7.4	0.30
Stephanodiscus minutus	3.7	0.15
Stephanodiscus sp.	5.5	0.22
Synedra delicatissima v. angustissima	1.8	0.07
Synedra sp.	1.8	0.07
Synura sp.	22.8	0.93
Tabellaria fenestrata v. intermedia	57.1	2.32
Total	2462.5	100.0

Entrainment for September 1975, continued.

9 SEP 75 PLUME B

Number of forms = 40
Temperature (C) = 20.0

Diversity = 3.74
Counted by: S.W.

Taxon	Cells/ml	Percent	Taxon	Cells/ml	Percent
Amphora sp.	1.8	0.10	Melosira granulata	16.6	0.93
Anacystis thermalis	254.1	14.21	Mougeotia sp.	1.8	0.10
Asterionella formosa	22.1	1.24	Navicula menisculus v. upsaliensis	1.8	0.10
Chromulina #1	5.5	0.31	Nitzschia acicularis	5.5	0.31
Chromulina #2	46.0	2.57	Nitzschia acuta	1.8	0.10
Chrysophycean flagellate spp.	47.9	2.68	Nitzschia angustata	1.8	0.10
Crucigenia quadrata	7.4	0.41	Nitzschia closterium	1.8	0.10
Cryptomonas sp.	68.1	3.81	Nitzschia kuetzingiana	1.8	0.10
Cyclotella michiganiana	1.8	0.10	Nitzschia sp.	3.7	0.21
Cyclotella ocellata	1.8	0.10	Ochromonas sp.	278.0	15.55
Cyclotella sp.	38.7	2.16	Rhizosolenia eriensis	5.5	0.31
Cyclotella stelligera	3.7	0.21	Scenedesmus quadricauda v. longispina	7.4	0.41
Dinobryon divergens	1.8	0.10	Stephanodiscus alpinus	5.5	0.31
Flagellates	276.2	15.45	Stephanodiscus minutus	5.5	0.31
Fragilaria crotonensis	145.5	8.14	Stephanodiscus sp.	7.4	0.41
Fragilaria sp.	1.8	0.10	Stephanodiscus tenuis	1.8	0.10
Gloeocystis planctonica	136.3	7.62	Synedra delicatissima v. angustissima	1.8	0.10
Gloeocystis sp.	165.7	9.27	Synedra filiformis	5.5	0.31
Gomphosphaeria lacustris	147.3	8.24	Tabellaria fenestrata	1.8	0.10
Green coccoid, unknown	3.7	0.21	Tabellaria fenestrata v. intermedia	53.4	2.99
			Total	1787.9	100.0

Appendix 4. Samples collected in or near the thermal discharge plume of the Donald C. Cook Nuclear Plant.[1]

Date	Location	Chlorophyll a	Chlorophyll b	Chlorophyll c	Phaeophytin a	Phaeophytin a / Chlorophyll a
April 1975	Discharge Turbulence	11.4(1.24)	1.61(0.206)	2.01(0.345)	3.02(1.95)	0.297(0.203)
April 1975	30m East of Turbulence	10.6(0.581)	2.00(0.213)	2.19(0.115)	4.31(0.824)	0.420(0.107)
April 1975	30m West of Turbulence	10.3(0.340)	2.36(0.210)	1.56(0.538)	5.34(0.759)	0.522(0.089)
May 1975	Discharge Turbulence	6.14(0.826)	0.602(0.120)	1.75(0.028)	4.19(1.76)	0.797(0.448)
August 1975	Discharge Turbulence	0.499(0.302)	0.081(0.081)	0.114(0.114)	0.318(0.187)	--[2]
August 1975	30m South of Turbulence	0.411(0.411)	0.198(0.122)	0.027(0.027)	0.615(0.311)	--[2]
August 1975	30m East of Turbulence	0.164(0.146)	0.062(0.036)	0.136(0.076)	0.908(0.276)	--[2]
August 1975	30m West of Turbulence	0.625(0.129)	0.122(0.076)	0.114(0.114)	0.282(0.100)	0.598(0.356)
August 1975	90m North of Turbulence	0.247(0.145)	0.167(0.085)	0.0(0.0)	0.801(0.168)	--[2]
August 1975	45m North of Turbulence	0.277(0.090)	0.295(0.042)	0.138(0.106)	0.668(0.441)	5.60(4.90)
September 1975	Discharge Turbulence	1.12(0.046)	0.299(0.015)	0.368(0.129)	0.618(0.167)	0.557(0.157)
September 1975	30m East of Turbulence	1.25(0.168)	0.232(0.032)	0.315(0.102)	0.474(0.190)	0.444(0.235)
September 1975	30m West of Turbulence	1.32(0.041)	0.230(0.083)	0.491(0.028)	0.552(0.056)	0.423(0.054)
September 1975	30m South of Turbulence	1.14(0.241)	0.218(0.021)	0.500(0.103)	0.431(0.113)	0.430(0.148)
September 1975	30m North of Turbulence	0.656(0.118)	0.232(0.041)	0.212(0.069)	0.958(0.238)	1.66(0.565)
September 1975	Intake	0.836(0.156)	0.191(0.040)	0.442(0.060)	0.251(0.175)	0.401(0.314)
December 1975	Near Discharge	4.47(0.893)	0.0(0.0)	0.818(0.451)	0.974(0.974)	0.355(0.355)
December 1975	Offshore of Intake	2.79(0.371)	0.837(0.837)	0.187(0.187)	0.136(0.136)	0.061(0.061)

[1]Units are mg/m^3; value in parenthesis are standard errors; 3 replicates for each.

[2]One or more of the three ratios used to calculate the mean was equal to infinity.